

MAINVIEW® for DBCTL IPSM Reference Manual

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Contacting BMC Software

You can access the BMC Software Web site at <http://www.bmc.com>. From this Web site, you can obtain information about the company, its products, corporate offices, special events, and career opportunities.

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- find the most current information about BMC Software products
- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
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- find worldwide BMC Software support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

Support by Telephone or E-mail

In the United States and Canada, if you need technical support and do not have access to the Web, call 800 537 1813. Outside the United States and Canada, please contact your local support center for assistance. To find telephone and e-mail contact information for the BMC Software support center that services your location, refer to the Contact Customer Support section of the Support page on the BMC Software Web site at <http://www.bmc.com/support.html>.

Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that Customer Support can begin working on your problem immediately:

- product information
 - product name
 - product version (release number)
 - license number and password (trial or permanent)
- operating system and environment information
 - machine type
 - operating system type, version, and service pack or other maintenance level such as PUT or PTF
 - system hardware configuration
 - serial numbers
 - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
 - product error messages
 - messages from the operating system, such as `file system full`
 - messages from related software

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How to Use This Book

This book documents the features and functions of the IMSplex System Manager (IPSM), a MAINVIEW® for DBCTL component.

IPSM works in the MAINVIEW window environment to provide SSI (single system image) views about the performance of multiple IMS regions and systems. Authorized users can use a single terminal to watch not only multiple IMSs but also CICS, DB2, and OS/390 from a single point of control.

This book is intended for use by the IMS master terminal operator (MTO), system programmer, database administrator, or performance analyst who monitors the status, activity, and performance of IMS and its resources.

For information about new features in the current release of MAINVIEW for DBCTL, see the product Release Notes, which are available on the BMC Software Support Web pages.

You can view this book online with Adobe Acrobat Reader; contact your system administrator for assistance.

MAINVIEW for DBCTL Product Library

The MAINVIEW for DBCTL product library contains the following documents:

- *MAINVIEW for DBCTL Customization Guide*
- *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*
- *MAINVIEW for IMSplex System Manager User Guide* (this book)
- *MAINVIEW for DBCTL Release Notes*

Note: Although MAINVIEW for DBCTL is often referred to as “MVDBC” in this book, the abbreviation is used for brevity only and does not represent a legal product name of BMC Software.

How This Book Is Organized

This book contains the following parts:

- Part 1 describes IMSplex System Manager (IPSM).
- Part 2 describes how to use IPSM to optimize IMS performance. It describes
 - IMS workflow views
 - UOW elapsed time and transaction delay analysis views
 - transaction trace views
 - monitor views
- Part 3 describes how to use the IPSM component to solve realtime problems. It describes
 - region activity views
 - IRLM lock views
- Part 4 describes how to use the IPSM component to manage IMS operations. It describes the use of
 - Fast Path DEDB area views
 - database views
 - program views
 - cross-reference views
 - IMS database activity views
 - data set views
- Part 5 describes system administration and operations views used to define an IMS workload and set and control the sampling of a target system.

Related MAINVIEW Products

The related MAINVIEW-based products include

- MAINVIEW® AutoOPERATOR™
- MAINVIEW® for CICS
- MAINVIEW® for DB2®
- MAINVIEW® for DBCTL
- MAINVIEW® FOCAL POINT
- MAINVIEW® for IMS
- MAINVIEW® for MQSeries
- MAINVIEW® for OS/390
- MAINVIEW® VistaPoint™

Customization and administration instructions for the MAINVIEW-based functions are provided in the *MAINVIEW Common Customization Guide*. The following manuals document product-specific customization instructions:

- *MAINVIEW AutoOPERATOR Customization Guide*
- *MAINVIEW for CICS Customization Guide*
- *MAINVIEW for DB2 Customization Guide*
- *MAINVIEW for DBCTL Customization Guide*
- *MAINVIEW for IMS Online – Customization Guide*
- *MAINVIEW for IMS Offline – Customization and Utilities Guide*
- *MAINVIEW for OS/390 Customization Guide*

The following books document the use of general services common to MAINVIEW for DBCTL and related products:

- *MAINVIEW AutoOPERATOR Basic Automation Guide*
- *MAINVIEW AutoOPERATOR Advanced Automation Guide for CLIST EXECs*
- *MAINVIEW AutoOPERATOR Advanced Automation Guide for REXX EXECs*
- *MAINVIEW for CICS PERFORMANCE REPORTER User Guide*
- *MAINVIEW for DB2 User Guide*, Volumes 1, 2, and 3
- *MAINVIEW for IMS Online – Analyzers Reference Manual*
- *MAINVIEW for IMS Online – Monitors and Traces Reference Manual*

Related IBM Publications

OS/390 Initialization and Tuning Guide

IMS Operator Reference

System Administration Guide

Conventions Used in This Manual

The following symbols are used to define command syntax, are *not* part of the command, and should never be typed as part of the command:

- Brackets [] enclose optional parameters or keywords.
- Braces { } enclose a list of parameters; one must be chosen.
- A line | separates alternative options; one can be chosen.
- An underlined parameter is the default.

The following command syntax conventions also apply:

- An ITEM IN CAPITAL LETTERS must be typed exactly as shown.
- Items in *italicized, lowercase* letters are values that you supply.
- When a command is shown in uppercase and lowercase letters, such as **HSplit**, the uppercase letters show the command abbreviation that you can use (**HS**, for example). The lowercase letters complete the entire command name. Typing the entire command name is an optional, alternative way of entering the command.
- Commands without an abbreviation (**END**, for example) appear in all uppercase letters.

Part 1. Introducing IMSplex System Manager (IPSM)

This part introduces IPSM and describes the benefits that it provides.

Chapter 1. How IPSM Can Work for You	3
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Chapter 1. How IPSM Can Work for You

IMSPlex System Manager (IPSM) provides Single System Image views of resources and bottlenecks across single or multiple IMS regions and systems. IPSM exploits IBM Parallel Sysplex technology and simplifies the management of IMS applications on traditional mainframes.

IPSM helps you

- Optimize system performance

IPSM helps you discover performance and workload problems wherever they occur—across multiple OS/390 and IMS systems. With IPSM, you can

- Manage the progress, throughput, and unit of work elapsed times for IMS workloads and transactions
- Examine workload throughput and capacity, as well as region/thread occupancy for IMS and IMSPlex systems
- Identify workload bottlenecks and delays caused by resource and capacity constraints

- Solve realtime problems

IPSM helps you solve realtime problems quickly. IPSM makes it easy to

- Monitor region/thread activity
- Recognize and resolve N-way data sharing contention

- Manage IMS operations

IPSM is a powerful tool for managing IMS operations. You can use it to

- Control and manage Fast Path DEDB areas
- Control and manage full-function databases
- Control and manage application programs
- Cross-reference IMS resources—databases and programs
- Recognize and solve problems with IMS database activity
- Analyze IMS log data sets

IPSM puts you in the MAINVIEW window environment as it monitors and reports the information you need to see.

Benefits of Using IMSplex System Manager (IPSM)

From a single user session, you can monitor and analyze the performance of one or more IMS systems across a sysplex. You can transfer quickly to other MAINVIEW products and you can manage CICS, DB2, and OS/390 from a single point of control.

IPSM collects and organizes the information you want into online views.

Workflow views allow system programmers to determine how much IMS transaction processing capacity is available and how much is being used at any given time. The views show any capacity shortages.

Transaction delay analysis views categorize transaction or workload delays and help you analyze individual resources that are causing delays. System programmers can use these views to ascertain which lock or DASD volume is causing delays and whether the delay affects a single IMS, a data-sharing group, OS/390, or an entire sysplex.

Unit of work elapsed time views show a picture of the life cycle of transactions running in IMS. System programmers can use these views to determine whether a transaction is being held up in scheduling, application processing, database access, or sync point processing.

Realtime problem-solving views help operators and system programmers solve realtime problems involving resources across single or multiple IMS systems. The views allow easy monitoring of region activity and quick analysis of lock problems stemming from N-way data sharing resource contention.

Views for managing IMS operations allow database administrators, system programmers, and application programmers to manage Fast Path DEDB areas, full-function databases, and application programs. The views, which allow easy cross-referencing of IMS resources, also assist in the management of IMS database activity.

Figure 1 on page 5 gives you an overview of IPSM and the views it provides.

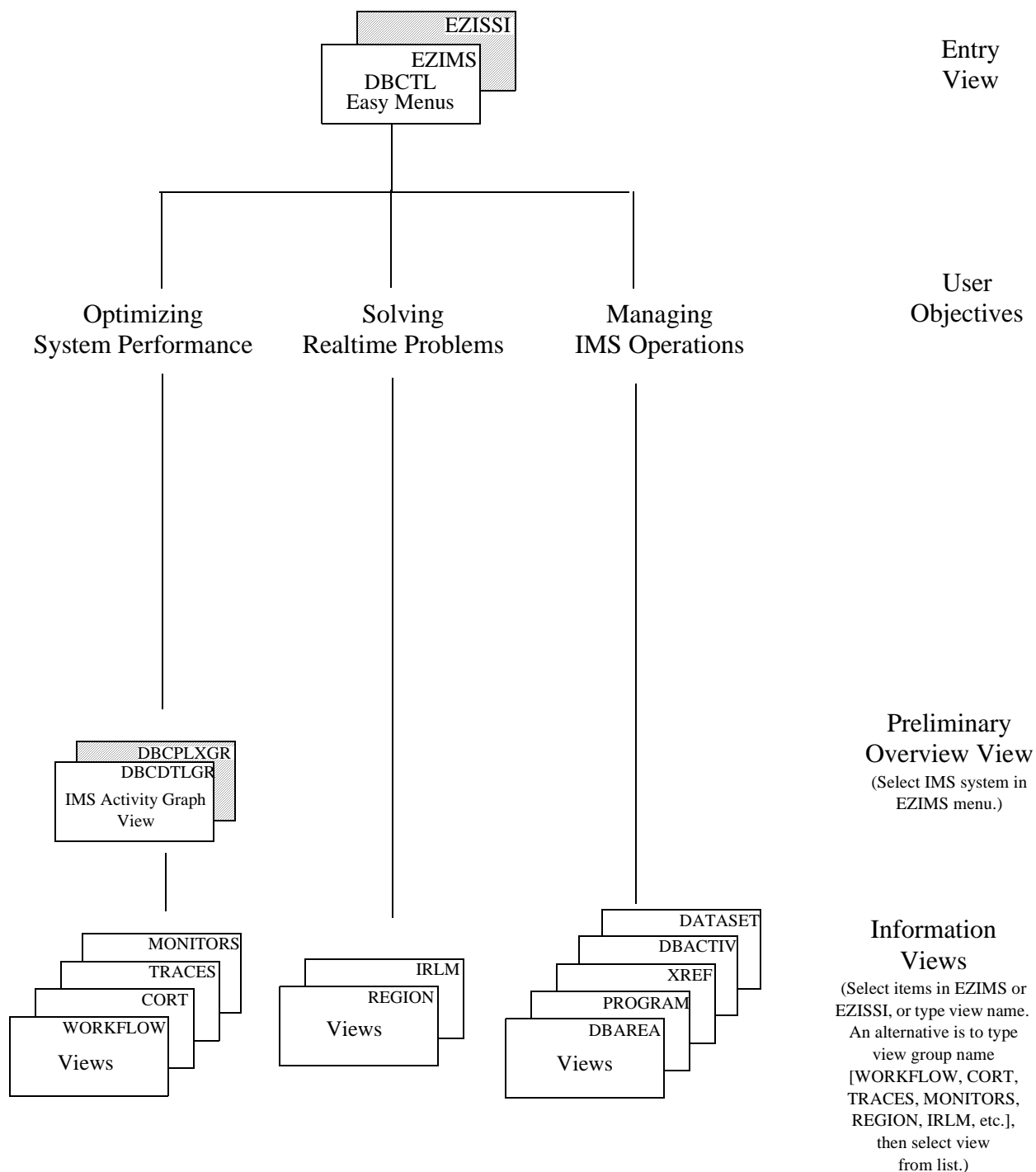


Figure 1. Overview of IPSM

Shaded boxes denote sysplex version of a view.

Figure 2 on page 7 gives you an overview of how to use IPSM to optimize system performance.

See Part 2 of this book (“Optimizing System Performance”) for a description of how you can use IPSM views to

- Manage your IMS workflow
- Analyze unit of work elapsed time
- Determine the causes of transaction delays

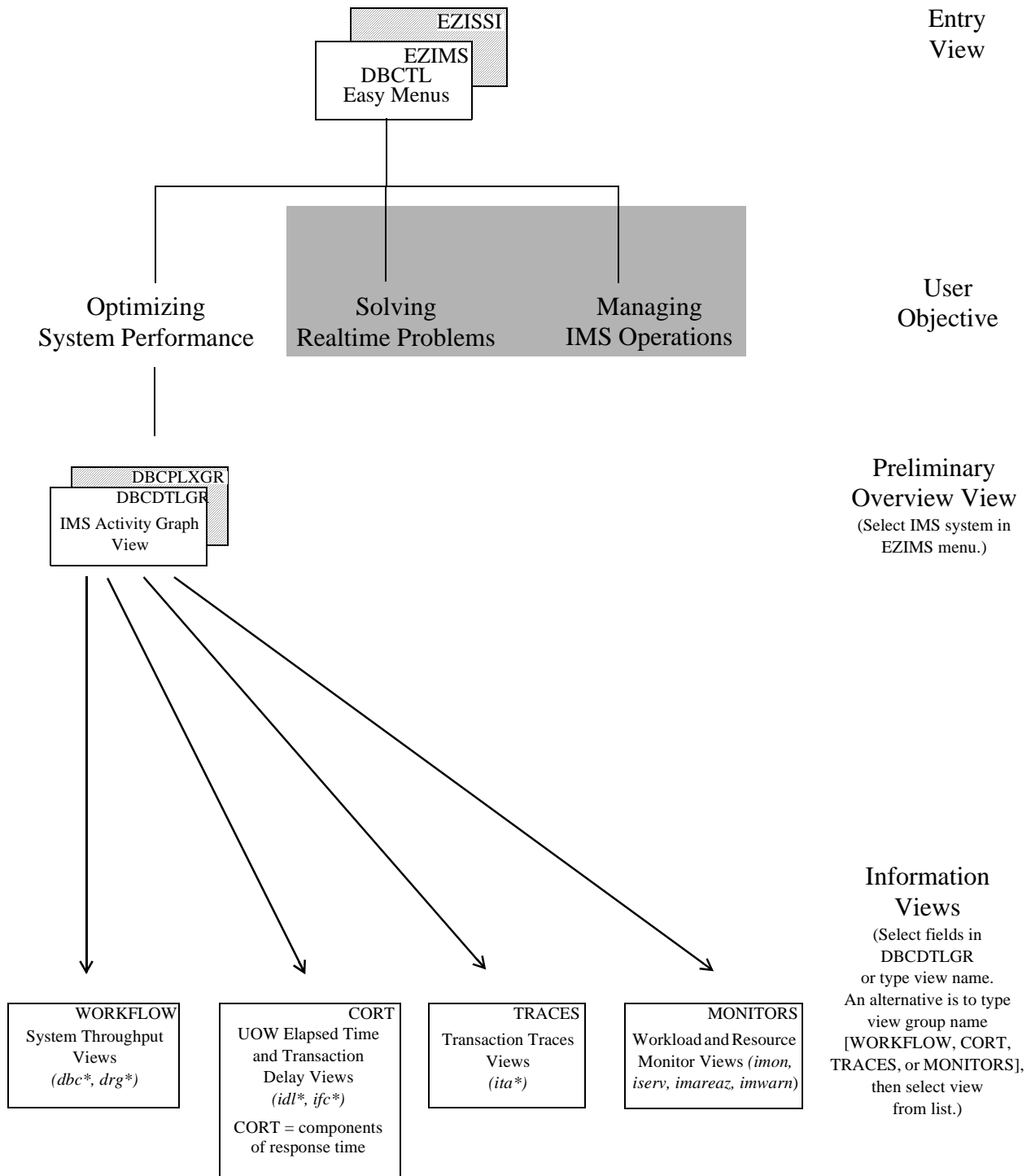


Figure 2. Using IPSM to Optimize System Performance

* To see a list of these views, type `VIEWS nnn*` (where *nnn* represents the first three characters of the view name). You can then select a view from the list displayed.

Figure 3 on page 9 gives you an overview of how to use IPSM to solve realtime problems.

See Part 3 of this book (“Solving Realtime Problems”) for a description of how you can use IPSM views to analyze and solve realtime problems in the areas of

- Region/thread activity
- IRLM locking

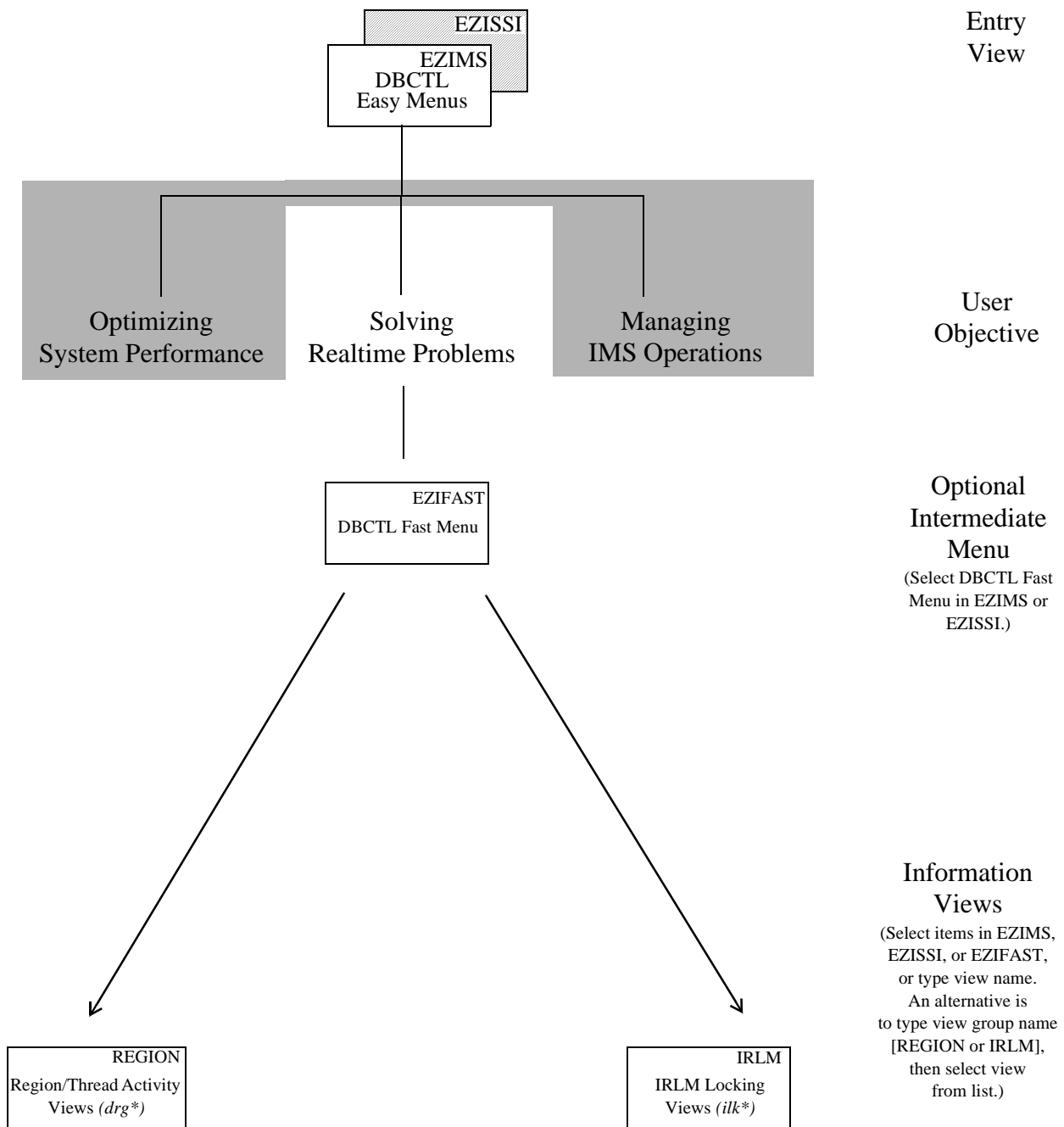


Figure 3. Using IPSM to Solve Realtime Problems

* To see a list of these views, type **VIEWS nn-*nnn**** (where *nn-*nnn** represents the first several characters of the view name). You can then select a view from the list displayed.

Figure 4 on page 11 gives you an overview of how to use IPSM to manage IMS operations.

See Part 4 of this book (“Managing IMS Operations”) for a description of how you can use IPSM views to manage IMS operations, including

- Fast Path DEDB areas
- IMS databases
- Application programs
- Cross-referencing databases and programs
- Database activity
- IMS data sets

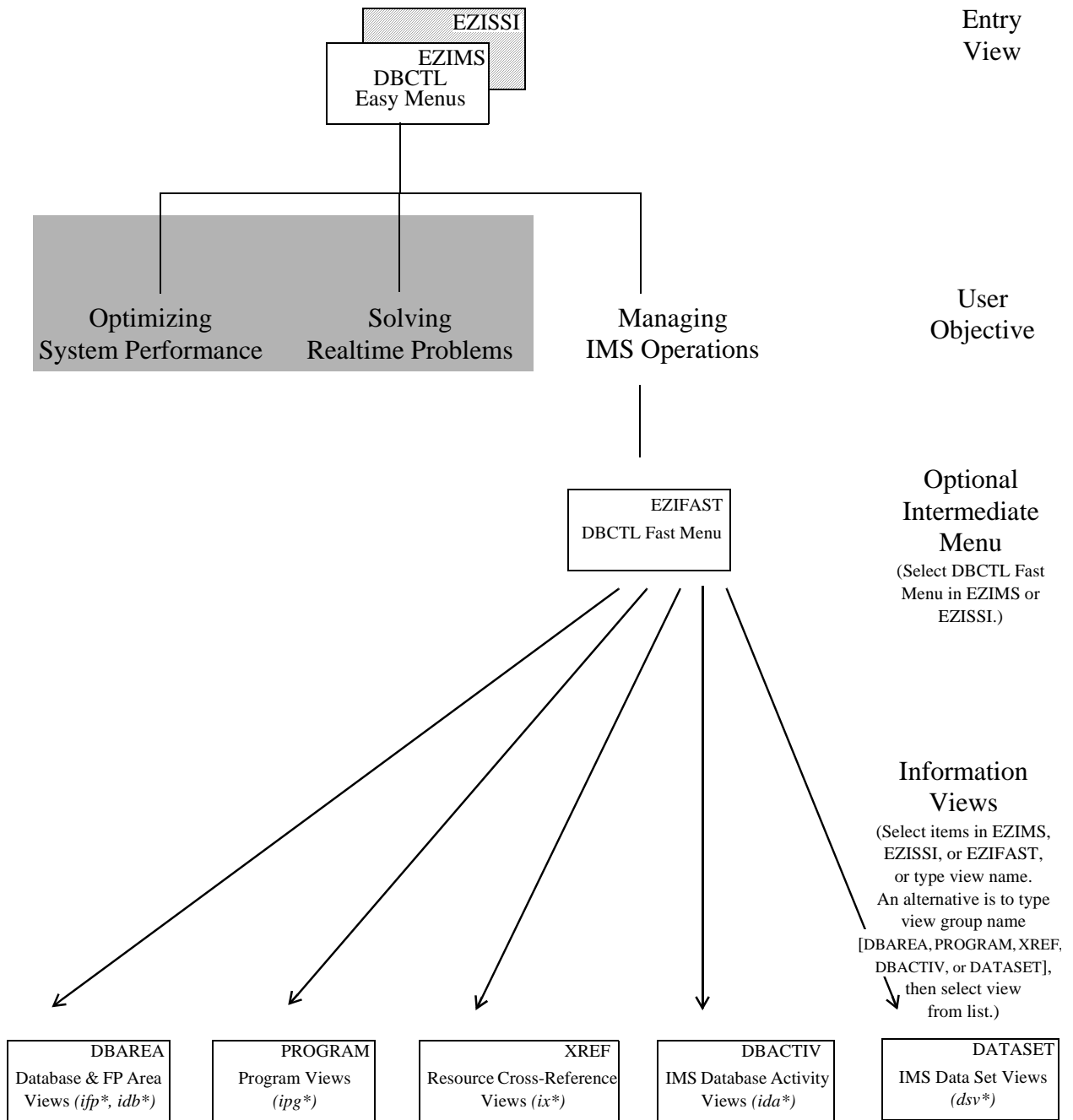


Figure 4. Using IPISM to Manage IMS Operations

* To see a list of these views, type **VIEWS nn-*nnn**** (where *nn-*nnn** represents the first several characters of the view name). You can then select a view from the list displayed.

How IPSM Works within MAINVIEW for DBCTL

IPSM views provide you with direct hyperlinks to other MAINVIEW for DBCTL (MVDBC) services. You can use IPSM views to spot potential problem areas quickly, and then access other views for additional problem determination if necessary.

IPSM views direct you to the information you need:

- Detailed analyzer information about the interaction of IMS transactions under varying processing conditions
- Precise analyzer workload performance details, so you can determine causes of overloads or contention
- Traces of transaction processing and resource usage, so you can isolate application performance problems
- Details about resource activity and status, so you can look for bottlenecks as they occur
- Database conflicts and status of buffer pools, so you can see resource usage changes as they occur
- Realtime warnings when monitored workload volumes exceed safe thresholds
- Realtime warnings when monitored unit of work elapsed time does not meet service-level objectives
- Realtime warnings when monitored resources exceed user-defined performance thresholds

For more information about these services, see the *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*.

Chapter 2. IPSM Interface

This chapter discusses the IMSplex System Manager (IPSM) user interface. If you are already familiar with the IPSM interface, you might want to skip this chapter.

The IPSM interface takes advantage of the MAINVIEW windows mode technology. What this means to you is that

- You have unique capabilities in this environment
- You have another way of navigating

The MAINVIEW windows mode environment is discussed in the “Working in Windows Mode” section of the *Using MAINVIEW* manual. A brief synopsis of the information is provided in *MAINVIEW Quick Reference*. Users familiar with ISPF will recognize many of the key functions.

Capabilities

With the IPSM user interface, you have additional capabilities for viewing information and performing actions. IPSM displays information in views. With these views, you can

- Set targets for the system or subsystem you want to monitor
- Monitor multiple targets together in a Single System Image (SSI) context
- View historical data
- Issue primary commands in any view and line commands in many views
- Hyperlink between views
- Open multiple windows to see different views simultaneously, and then save the configuration
- Sort information by any field
- Filter to see only the information you want to see
- Customize views to
 - Include/exclude any field
 - Rearrange fields or change their width or headings
 - Create your own hyperlinks between views
 - Summarize and display data from many resources in a single row
 - Set thresholds, assigning a color or character display
- Access and customize online help

You can exercise any of these capabilities by following the procedures described in the *Using MAINVIEW* manual.

Navigation

IPSM groups its views into categories (workflow views, database views, and so on). You can get an overview of the different categories by glancing through the contents of this book.

Navigation between views is designed to be *point and shoot*—that is, you can position the cursor on any highlighted field within a view, press Enter, and be taken (by hyperlink) to a new view containing related information.

You can start by displaying one of the IPSM Easy Menus, EZIMS for a single system or EZISSI for multiple systems. Position the cursor on any menu item of interest and press Enter. That takes you to a view displaying the information you desire.

Within the new view that is displayed, you can hyperlink from any row in the far left information column to an Object Easy Menu, which will provide detailed, in-context information about the object (resource, job, or workload) you selected. (You can refer to Chapter 3, “Getting Started with Menus” on page 17, for a complete description of IPSM Easy Menus and Object Easy Menus.)

A second way to navigate is to type the view name on the command line of any view once you are within the IPSM component.

You can also type VIEWS on any command line to access an alphabetical list of all IPSM views. You can type MAIN on any command line to access a functional list of view categories. From the categories, you can hyperlink to the names of the individual views. In both the MAIN and VIEWS lists, you can hyperlink from the listed view name to the actual view.

Advantage of Hyperlinking

Hyperlinking from one view to another, or from an Object Easy Menu to a related view, has the advantage of keeping a “filter” on the data you are looking at.

For example, if you hyperlink to the Region Occupancy view (IRGOCCR) from the Transaction Class field in the Transaction Queue Status Summary view (ITRSUMR), the IRGOCCR view is filtered to show all regions that process the class you selected.

By contrast, if you navigate to the IRGOCCR view by typing its name on the command line, you see the unfiltered view—showing all regions, not just the regions processing the class of transaction you are interested in.

Advantages of Typing the View Name

Navigating by typing the view name on the command line is faster and more direct, and you do not have to remember the navigation path to the data.

As you gain experience, you may want to remember and enter the names of views you use often, and then hyperlink from those views to related views.

If you split your screen into multiple windows (as described in the *Using MAINVIEW* manual), you can see more than one view at the same time. For example, in one window you can see a tabular view and in another window you can see the data displayed as a result of hyperlinking from a specific row within that view.

Key Functions

In the IPSM environment, many key functions are the same as in ISPF. For example, the END, DOWN, UP, LEFT, and RIGHT keys are defined and function in the same way.

The Enter key performs multiple functions. You can use it to refresh data in a view if you have not cursor-selected any field and if you do not have any commands entered. If you have multiple windows open, the data is refreshed in all of them.

You can use the Enter key to execute commands once you have typed them in the primary command field or line command column. If you have multiple windows open, a command is executed only in the window where the cursor was last active.

If you press Enter after cursor-selecting a field with a highlighted header, a hyperlink is executed, taking you to a view containing related information.

If you press Enter after cursor-selecting a field containing summarized data (in a summary view), you are taken to an *expanded* view displaying all the data that was summarized in the first view. Most summary views provide a hyperlink to *expand*, displaying the data that was summarized. Typically, the *expand* is from the count field.

Online Help

The PF1 key allows you to access online help. For information about the view you are in, position the cursor on the view name in the window information line and press PF1. For a description of a particular field within a view, position the cursor on the field, then press PF1.

To see line commands available within a certain view, position the cursor in the line command column (located to the far left in views that support line commands), and then press PF1.

View Naming Conventions

IPSM views follow a simple naming convention. The first character is either the letter *I* (for IPSM, the component name) or the letter *D* (for some DBCTL-specific views). The next several characters are based on the category to which the view belongs (for example, *RGN* for Region views or *DL* for Delay views).

If the letters *DTL* follow the category characters, the view is a detail view. If the letters *SUM* follow the category characters, the view is a summarized view, a tabular view, or both. If the view name ends with the letter *R*, it is usually a realtime view. If it does not, it is usually an interval view.

Easy and Fast Menu views (EZIMS, EZISSI, and EZIFAST), although part of the IPSM component, begin with the letters *EZ*. Easy Menus are a MAINVIEW standard to provide entry points.

Selecting a Starting Point

You can select any of the following starting points for viewing information in IPSM:

- Look at the figures in Chapter 1 to get a visual overview
- Look at the Contents in this book and pick an area of interest
- Look at the view categories in the MAIN view, and then hyperlink from a category that interests you to see subcategories and specific views
- Begin by looking at one of the Easy Menus and selecting options from there (see Chapter 3, “Getting Started with Menus” on page 17).

If this is your first experience with IPSM, try using one of the Easy Menus (EZIMS for single-system information or EZISSI for sysplexes) as a point of departure.

If you have previous experience with IMS or know what information you want to see, you might try using the Fast Menu (EZIFAST).

If you are very experienced and already know the views you want to see, you can go directly to the information by typing the view name on the command line.

Chapter 3. Getting Started with Menus

This chapter describes the basic menus that help you access different views and information within IMSplex System Manager (IPSM).

IPSM runs in the MAINVIEW windows environment. For a full description of how to navigate with menus and views in the MAINVIEW environment, see the *Using MAINVIEW* manual.

To enter the MAINVIEW for DBCTL product, begin at the MAINVIEW Selection Menu (shown in the *Using MAINVIEW* manual). Select either of the following options and press Enter:

- PLEX Management

A list of MAINVIEW products and their associated targets is displayed. Here you can select any active target and press Enter. The DBCTL Easy Menu (EZIMS), shown in Figure 5 on page 18, is displayed.

- IMS

The IMS Solutions menu is displayed. Select the MVIMS option.

The IMS Primary Option Menu for MVIMS services is displayed. Select the PLEX MONITORS option (Option V). The IMS Sysplex Easy Menu (EZISSI), shown in Figure 6 on page 19, is displayed.

Note: When you want to view data for an SSI (single system image) context, use the EZISSI Easy Menu.

DBCTL Easy and Fast Menus

This section describes the DBCTL Easy and Fast Menus. These menus offer easy and quick access to important information. You can select the menu that provides the quickest access to the information you need.

From all of these menus, you can select views, pop-up windows with options related to your selection, or other menus.

- The . character indicates a direct hyperlink to a specific view of IMS performance information.
- The > character indicates a hyperlink to a pop-up window or another menu.
- The * character indicates an item that is not available because a product is not installed.

For more information about these menus, see the *Using MAINVIEW* manual.

DBCTL Easy Menu (EZIMS)

The DBCTL Easy Menu (EZIMS) is a good place to start when you want to view system performance information. It provides access to all key IPSM views and menus. Simply select one of the descriptions listed in the different task categories and press Enter. That takes you to the information you want, gathered and displayed in a specific view.

Once you become more familiar with IPSM, you can access system performance information using any of the following methods:

- Enter the view name on any command line within IPSM.
- Select a group of views by function from the menu displayed after you select the component from the MAINVIEW Selection Menu or from a PlexManager view.
- Hyperlink from related views.

Each method is described in the *Using MAINVIEW* manual.

```
22MAR2002 14:14:41 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIMS=====IMSxxx=====22MAR2002=14:14:41====MVIMS====D====1

          DBCTL EASY MENU
          Timeframe - Interval

          (Change) Target---> IMSxxx          Status: INACTIVE

          Activity          +-----+          Resources
          . System          | Place cursor on |          . Programs
          . Threads          | menu item and  |          . Databases
          . Threads Not Idle | press ENTER  |          . Areas
          . Thread Occupancy +-----+
          . Batch Regions
          . Database Activity          Transaction Analysis          Cross Reference
          . IMSplex Connection          . Delay Factors          . Programs/Databases
          .                               . Components of Response . Databases/Programs
          .                               . Traces
          Exceptions
          . Current Delays
          . Database Lock Waits          Monitors
          . Waiting Threads          . In Warning
          . Stopped Programs          . Active
          . Stopped Databases          . Workload Objective
          . Stopped Areas          . Area Summary
          . Alarms in Exception

          Tools and Menus
          > Utilities
          > IMS Fast Menu
          > IMS SSI Menu
          > MVIMS Main Menu
          . Installed Products
          . What's New?
          . Return
```

Figure 5. DBCTL Easy Menu (EZIMS)

The DBCTL Easy Menu (EZIMS) provides access to system performance information gathered during a time interval. For system performance information in realtime, see the EZIMSR menu (not shown here). You can use the DBCTL Easy Menu (EZIMS or EZIMSR) to

- View system performance information (simply select a category of interest)
- Access other MAINVIEW for DBCTL services
- Select the DBCTL Fast Menu EZIFAST (shown in Figure 7 on page 20)

To display the DBCTL Easy Menu, do one of the following:

- Enter the view name (EZIMS or EZIMSR) on any command line within IPSM and press Enter.
- Enter VIEWS in any command line within IPSM, and then select the view name from the resulting list.

IMS Sysplex Easy Menu (EZISSI)

The IMS Sysplex Easy Menu (EZISSI), shown in Figure 6, provides options for obtaining performance measurement information about all the IMS systems across your sysplex.

```

22MAR2002 14:11:33 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ===>                                SCROLL ===> CSR
CURR WIN ===> 1          ALT WIN ===>
W1 =EZI SSI=====IMSxxx====*=====22MAR2002=14:10:47====MVIMS====D====1
                                IMS EASY MENU
                                Timeframe - Interval

Performance                    +-----+ Resources
. IMS Systems in Context      | Place cursor on | . Transactions
. IMS Msg Sharing Groups     | menu item and  | . Programs
. IMS Data Sharing Group     | press ENTER    | . Databases
. Processing by Class        +-----+ . Areas
. Processing by BALG                                     . IMSplex

Activity                        . Exceptions
. Region Occupancy           . Current Delays
. Region Activity             . Database Lock Waits
. Database Activity           . Waiting Regions
                                . Alarms in Exception
                                > Stopped Resources

Communications                  Transaction Analysis
. Input Messages Queued       . Delay Factors
. Output Messages Queued      . Components of Response
. Input/Output Status         . Traces
. Active Users
. OTMA                        . Monitors
. APPC                        . In Warning
                                . Active
                                . Workload Objective
                                . Area Summary

                                Tools and Menus
                                > Utilities
                                > IMS Easy Menu
                                > IMS Fast Menu
                                > MVIMS Main Menu
                                . Installed Products
                                . What's New?
                                . Return...
```

Figure 6. IMS Sysplex Easy Menu (EZISSI)

Although the options in this menu are specific to the IMS sysplex environment, the menu works just like the other Easy Menus described in this chapter.

To display the EZISSI menu, do one of the following:

- Select Option V (multiple system performance monitoring) from the MAINVIEW Primary Option Menu and press Enter. To view data for a specific target, choose the Select Target/Menu item in the Tools and Menus section of the menu.
- Enter the view name (EZISSI) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name (EZISSI) from the resulting list.

DBCTL Fast Menu (EZIFAST)

The DBCTL Fast Menu (EZIFAST), shown in Figure 7, offers menu item categories that link to more detailed information.

```
02/05/2001 14:15:13 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZI FAST=====IMSxxx==*=====02/05/2001=14:15:13====MVIMS====D====1

                                DBCTL FAST MENU
                                Timeframe - Interval
                                (Change) Target--> IMSxxx          Status: ACTIVE
                                +-----+
                                | Place cursor on | | Database Activity
                                | menu item and | | . Overview
                                | press ENTER   | | . Databases
                                +-----+ | | . Volumes
                                | | . VSAM Buffer Pools
                                | | . OSAM Buffer Pools
                                | | . Fast Path Buffer Stats
                                | | Resources
                                | | . Programs by Status
                                | | . Databases by Status
                                | | . Areas by Status
                                | | > Resources Menu
                                | |
                                | | Threads
                                | | . Occupancy
                                | | . All Threads
                                | | . Processing
                                | | . Waiting
                                | |
                                | | Monitors
                                | | . In Warning
                                | | . Workload Objective
                                | | . Wait Analysis
                                | | . Manage
                                | |
                                | | Delays
                                | | . Transaction Summary
                                | | . Database
                                | | . Volume
                                | | . Database Lock
                                | | . Latch
                                | |
                                | | Components of Response
                                | | . Transaction Summary
                                | | . Applications
                                | | . DLI
                                | | . Scheduling
                                | | . DB2
                                | |
                                | | Traces
                                | | . View Traces
                                | | . Manage Traces
                                | |
                                | | Tools and Menus
                                | | > Utilities
                                | | > IMS Easy Menu
                                | | > IMS SSI Menu
                                | | > MVIMS Main Menu
                                | | . Installed Products
                                | | . What's New?
                                | | . Return...
```

Figure 7. DBCTL Fast Menu (EZIFAST)

To display the DBCTL Fast Menu, do one of the following:

- Enter the view name (EZIFAST) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name from the resulting list.

DBCTL Object Easy Menus

A DBCTL Object Easy Menu is a menu that is related to a specific object (such as a transaction, database, or program) shown in a view. It provides more detailed information about the object.

To display a DBCTL Object Easy Menu, place the cursor on an object (transaction, database, or program) and press Enter.

For more information about Object Easy Menus and how to access and customize them, see the *Using MAINVIEW* manual.

Part 2. Optimizing System Performance

This part describes how you can use the IPSM views to manage your IMS workflow, analyze transaction response, and determine the causes of transaction delays. For general information about views, see the *Using MAINVIEW* manual.

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Chapter 4. Managing IMS Workflow Performance

This chapter explains how to use IMSplex System Manager (IPSM) to manage your workflow performance. It begins with a description of the workflow views. These views help you answer the following questions:

- Is IMS resource usage too high?
- Can IMS support additional regions/threads?
- Is OS/390 affecting IMS performance?

The second half of this chapter is a reference section (“Views for Workflow Management – Reference Section” on page 35) with a complete listing of IPSM views available to help you manage IMS workflow and transaction processing throughput. Views are grouped by the type of information they provide:

- IMS activity
- IMS sysplex activity
- Region/thread occupancy
- Transaction processing

Each view group contains both summary and detail views. Most views are available in either realtime or interval versions. A sample realtime view from each group is shown and described. (Realtime views show you information from the present time. Interval views show you information gathered over a time period. The time period can be either from current or past time.)

Note: Some views are available in either graphical or textual form. The graphical form displays data in bar graphs to give you a quick visual picture. The textual form provides you with additional numerical information.

Using Workflow Views to Analyze Performance

A good starting point for analyzing your IMS workflow performance is either the IMS Activity view (DBCDTLGR) for a single IMS, or the IMS Sysplex Activity view (DBCPLXGR) for multiple IMS systems.

Both views are available in either bar graph or textual form. (Certain monitor configurations do not support extended attributes required for viewing the bar graph form.) Figure 8 shows the bar graph form of the (single) IMS Activity view (DBCDTLGR).

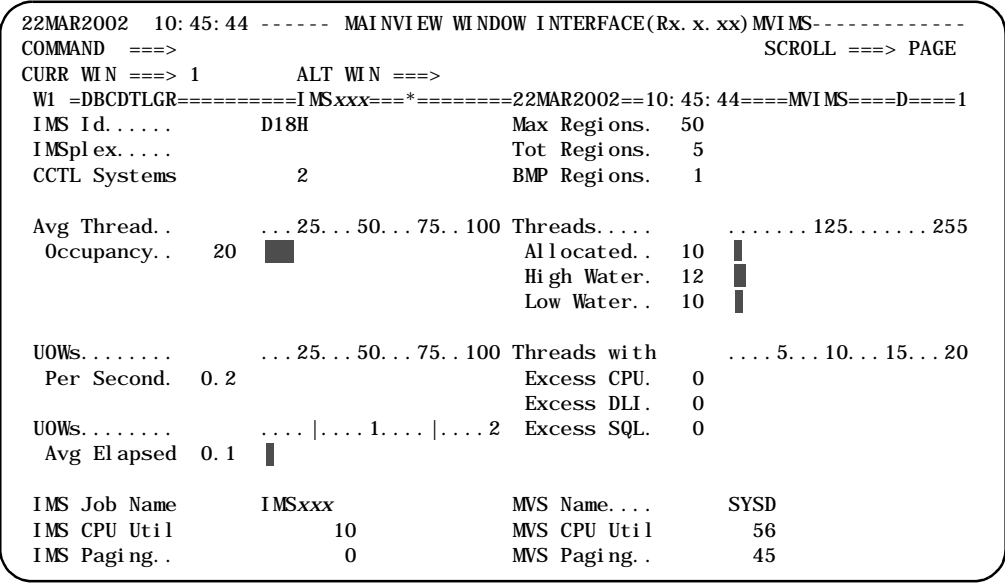


Figure 8. IMS Activity View (DBCDTLGR) - Bar Graph Form

If your monitor does not support the graphical view, DBCDTLGR will display as shown in Figure 9.

22MAR2002 10: 45: 44 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
W1 =DBCDTLGR=====IMSxxx==*=====22MAR2002==10: 45: 44====MVI MS====D====1			
IMS Id.	D18H	Max Regions.	50
IMSplex.		Tot Regions.	5
CCTL Systems	2	BMP Regions.	1
Avg Thread. .	... 25... 50... 75... 100	Threads. ....	..... 125..... 255
Occupancy. .	20 ***	Allocated. .	10 *
		High Water. .	12 *
		Low Water. .	10 *
UOWs. ....	... 25... 50... 75... 100	Threads with	.... 5... 10... 15... 20
Per Second. .	0. 2	Excess CPU. .	0
		Excess DLI. .	0
UOWs. ....	.... |.... 1.... |.... 2	Excess SQL. .	0
Avg Elapsed	0. 1 *		
IMS Job Name	IMSxxx	MVS Name.	SYSD
IMS CPU Util	10	MVS CPU Util	56
IMS Paging. .	0	MVS Paging. .	45

Figure 9. IMS Activity View (DBCDTLGR) - Text Form

To display the DBCDTLGR view, type DBCDTLGR on the command line, or type VIEWS and then select DBCDTLGR from the list of views displayed. For more information about the view or any of its fields, select the view name (DBCDTLGR) on the window information line or select any field name and then press your help key.

Useful fields in the DBCDTLGR view for workflow analysis are

- Avg Thread Occupancy
- UOWs Per Second
- UOWs Avg Elapsed
- IMS CPU Util
- IMS Paging
- BMP Regions
- Threads Allocated, High Water, Low Water
- Threads with Excess CPU, DLI, or SQL
- Max Threads/Regions

You can hyperlink from any of these fields to other views that contain related information. By means of this dynamic view interaction, you can isolate and identify potential problems. The following pages show you how to use these views to answer typical workflow management questions.

Is IMS Resource Usage Too High?

To analyze whether your IMS resource usage is too high, begin by looking at relevant fields in the DBCDTLGR view and then check the DRGOCCR view, as illustrated in Figure 10.

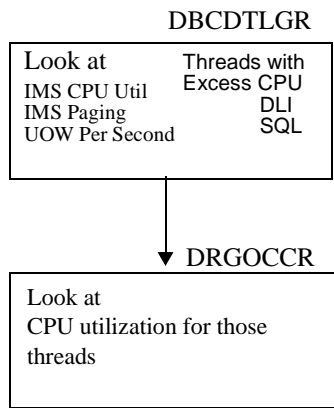


Figure 10. Views for Checking IMS Resource Usage

The relevant fields in the DBCDTLGR view are the IMS CPU Util, IMS Paging, and Threads with Excess CPU, DLI, and SQL fields.

22MAR2002 10: 45: 44 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
W1 =DBCCTLGR=====IMSxxx==*=====22MAR2002==10: 45: 44====MVIS====D====1			
IMS Id.....	D18H	Max Regions.	50
IMSplex....		Tot Regions.	5
CCTL Systems	2	BMP Regions.	1
Avg Thread..	... 25... 50... 75... 100	Threads....	..... 125..... 255
Occupancy..	20 █	Allocated..	10 █
		High Water.	12 █
		Low Water..	10 █
UOWs.....	... 25... 50... 75... 100	Threads with	.... 5... 10... 15... 20
Per Second.	0.2	Excess CPU.	0
		Excess DLI.	0
UOWs.....	.... |.... 1.... |.... 2	Excess SQL.	0
Avg Elapsed	0.1 █		
IMS Job Name	IMSxxx	MVS Name...	SYSD
IMS CPU Util	10	MVS CPU Util	56
IMS Paging..	0	MVS Paging..	45

Figure 11. Fields for Checking IMS Resource Usage (DBCCTLGR View)

If a value in one of these fields is unusual or above normal, determine if the abnormality is due to any of the following reasons:

- A heavier workflow
(Check the UOWs Per Second field in the DBCDTLGR view.)
- Mix of BMPs to DBTs
(See the DRGOCCR view.)
- Changes in the applications themselves

To see more detailed information about the work being performed and the resources being used by an IMS, display the IMS Activity Detail view (DBCDTLR), shown in Figure 12. To display the view, type DBCDTLR on the command line, or type VIEWS and then select DBCDTLR from the resulting list of views.

22MAR2002 08: 53: 26 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----				
COMMAND ==>			SCROLL ==> PAGE	
CURR WIN ==> 1			ALT WIN ==>	
W1 =DBCDTLR=====IMSxxx==*=====22MAR2002==08: 53: 26====MVI MS====D====1				
IMS Id.	D18H	CPU Utilization	AVG UOW Duration	0.500
IMSplex.		MVS System. ...	87	UOWs per second. 5
IMS Job Name..	IMSxxx	IMS System. ...	50	
MVS Name.	SYSD	Control Rgn.	20	
Batch Regions.	1	DLI SAS Rgn.	20	
DBCTL Threads.	3	BMP Rgns. ...	5	
High Number.	9	DBRC Rgn.	0	
Low number. .	3	IRLM Rgn.	5	
Avg Thread Occ	33			

Figure 12. IMS Activity Detail View (DBCDTLR)

The DBCDTLR view shows how your critical resources are being used by IMS. For a complete description of what any field shows, position the cursor on that field, and then press your help key.

Can IMS Support Additional Regions/Threads?

To see if IMS can support additional regions/threads, check the Max Regions and Threads Allocated fields in the DBCDTLGR view, shown in Figure 13.

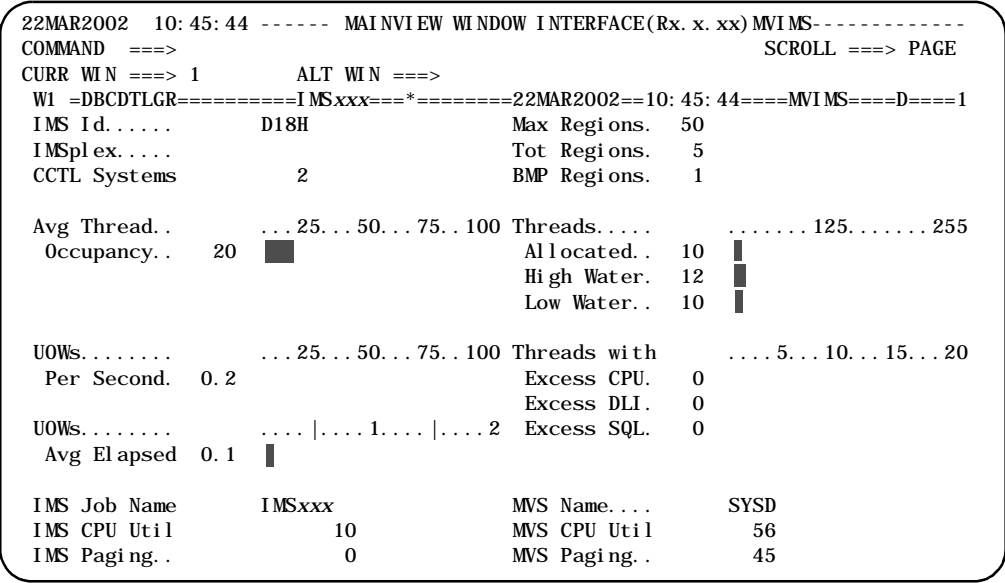


Figure 13. Fields for Checking IMS Ability to Support Additional Regions/Threads

If the value shown in the Max Regions field is greater than the value shown in the Threads Allocated field, IMS can support additional regions/threads for processing.

Is OS/390 Affecting IMS Performance?

If you have MAINVIEW for IMS installed, you can hyperlink from DBCDTLGR to OS/390 views that show you how OS/390 is affecting IMS performance. See Figure 14 for a visual overview.

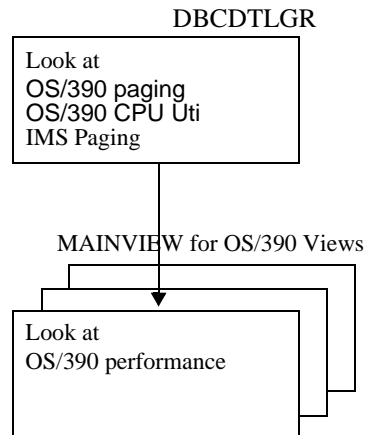


Figure 14. Views for Checking Effect of OS/390 Performance

The following fields in the DBCDTLGR view are your starting points for checking to see if OS/390 is affecting performance.

- MVS Paging
Shows the number of page-ins and page-outs for the OS/390 where IMS is running.
- MVS CPU Util
Shows the percentage of CPU used by OS/390.
- IMS Paging
Shows the number of page-ins and page-outs for that IMS.

These three fields are shown in Figure 15 on page 34.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =DBCDTLGR=====IMSxxx==*=====22MAR2002==10:45:44==MVIMS==D==1
IMS Id. .... D18H                      Max Regions. 50
IMSpl ex. ....                      Tot Regions. 5
CCTL Systems          2                BMP Regions. 1

Avg Thread..    ...25...50...75...100 Threads....    .....125.....255
Occupancy..    20  █                      Allocated.. 10  █
                                           High Water.. 12  █
                                           Low Water.. 10  █

UOWs. ....    ...25...50...75...100 Threads with    ....5...10...15...20
Per Second. 0.2                      Excess CPU. 0
                                           Excess DLI. 0
UOWs. ....    ....|....1....|....2 Excess SQL. 0
Avg Elapsed 0.1  █

IMS Job Name      IMSxxx                MVS Name. ... SYSD
IMS CPU Util      10                    MVS CPU Util 56
IMS Paging. .     0                    MVS Paging. . 45

```

Figure 15. Fields for Checking OS/390 Processing

For more information about how to use OS/390 views, see the *MAINVIEW for OS/390 User Guide and Reference*.

Views for Workflow Management – Reference Section

This section lists all the IPSM views available to help you manage your IMS workflow. The views are grouped into categories, which are listed in alphabetical order:

- IMS Activity
- IMS sysplex activity
- Region/thread occupancy

Each view category contains several different views. Their basic function is the same, with variations reflecting whether the data displayed is realtime or interval.

You can change the presentation of each view by context, scope, or filters. To see which of these apply to a particular view, refer to the online help. (For online help, position the cursor on the view name in the window information line, and then press your help key.) In some views you can take actions to make dynamic system changes. These actions are described in the online view help.

To meet your site's needs, you may want to customize views and create screens made up of several views. See the *Using MAINVIEW* manual for a description of how to do this.

In the following pages, each section contains a table showing all views available for that view category. A sample realtime view follows the table, along with a brief description of what the view does. For more detailed information about the views or any of their fields, refer to the online help.

IMS Activity Views

This section describes the IMS activity views available to help you manage your IMS workflow. These views provide IMS system information, showing you resource usage and workflow performance for a single IMS.

Table 1 lists all available IMS activity views. The views are similar except for the time period that samples are taken. (Views with names ending in R display realtime data; the other views display data collected during a specific time interval.)

Table 1. IMS Activity Views

View description	Name	Type
IMS processing and resource usage (graph view)	DBCCTLGR	Realtime detailed statistics about IMS performance
	DBCCTLG	Interval statistics
IMS processing and resource usage (text view)	DBCCTLR	Realtime detailed statistics about IMS performance
	DBCCTL	Interval statistics

All views are described in the online view help. To see online view help, do one of the following:

- Position the cursor on the view name on the window information line and press your help key.
- Enter HELP and the name of the view on the command line.

DBCCTLGR View – IMS Processing and Resource Usage

The view shown in Figure 16 is an example of a realtime IMS Activity view. This view and the others in this group can help you determine if IMS is meeting its performance objectives. It shows you how critical resources, including application region processing, are being used by IMS.

The UOWs Per Second and UOWs Avg Elapsed fields are indicators of whether IMS is meeting general throughput and response time objectives.

If IMS is not meeting its objectives, you can check the OS/390 fields for indications of system resource competition.

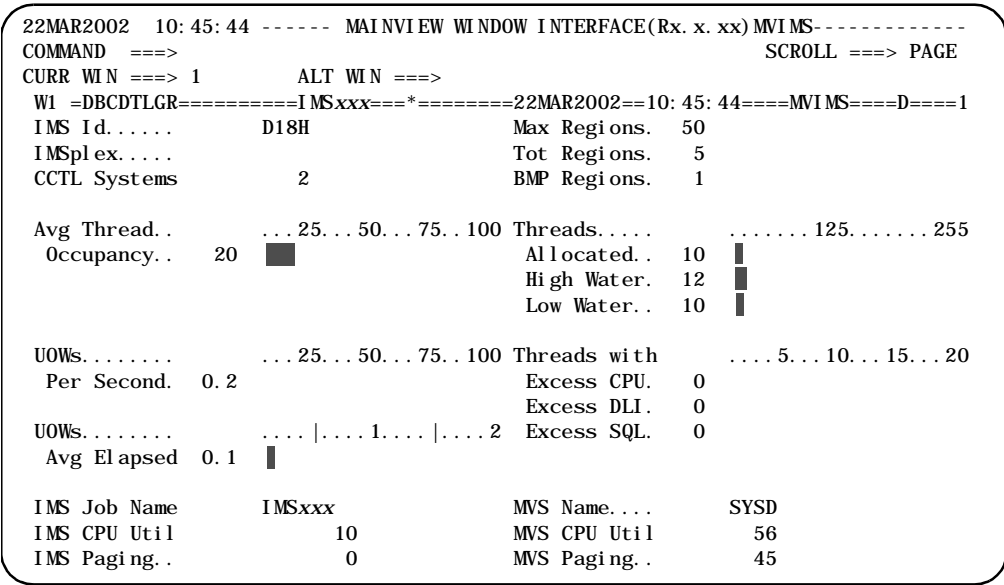


Figure 16. DBCCTLGR — Sample IMS Activity View

To display this view, type DBCCTLGR on any command line within IPSM or type VIEWS on any command line and then select the view name from the resulting list of views.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

IMS Sysplex Activity Views

This section describes the IMS sysplex activity views available to help you manage your IMS workflow. These views show how well each IMS in the sysplex is processing its workflow and how much of your resources are being used by each IMS across a sysplex.

Table 2 lists all available IMS sysplex activity views. The views are similar except for the time period that samples are taken. (Views with names ending in R display realtime data; the other views display data collected during a specific time interval.)

Table 2. IMS Sysplex Activity Views

View description	Name	Type
Sysplex performance by IMS	DBCPLXR	Realtime performance statistics for each IMS in the sysplex
	DBCPLX	Interval statistics
	DBCPLXGR	Realtime graph
	DBCPLXG	Interval graph
Sysplex performance by data sharing group	DBCPLSR	Realtime performance statistics for IMS data sharing groups
	DBCPLS	Interval statistics
	DBCPLSGR	Realtime graph
	DBCPLSG	Interval graph
Sysplex performance by OS/390	DBCPLMR	Realtime performance statistics for IMS system group by OS/390 system
	DBCPLM	Interval statistics
	DBCPLMGR	Realtime graph
	DBCPLMG	Interval graph

All views are described in the online view help. To see online view help, do one of the following:

- Position the cursor on the view name on the window information line and press your help key.
- Type HELP and the name of the view on the command line and press Enter.

DBCPLXR View – IMS Sysplex Performance

The view shown in Figures 17 and 18 is an example of a realtime IMS Sysplex Activity view. This view and the others in this group can help you analyze IMS performance across a sysplex. Resource statistics, such as CPU utilization, are aggregated for each IMS. Throughput statistics are for the entire workflow serviced by an IMS. These statistics represent IMS sysplex performance and service levels.

22MAR2002 11: 46: 06 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----													
COMMAND ==> SCROLL ==> PAGE													
CURR WIN ==> 1 ALT WIN ==>													
>W1 =DBCPLXR=====IMSxxx==*=====22MAR2002==11: 46: 05====MVI MS====D====1													
IMS	Intvl	IMS	MVS	IMS	MVS	IMS	MVS	Num	Thrd	UOW	UOW	Num	
ID	Time-	Job	Name	Name	CPU%	CPU%	Page	Page	Thrds	Occ	AVG	Rate	BMPs
D19H	11: 46	IMSxxx	SYSC		0	78	0	0	3	33	0. 00	0. 0	0
D15H	11: 46	IMSxxx	SYSC		0	56	0	1	3	33	0. 00	0. 0	0
X18H	11: 46	IMSxxx	SYSD		0	31	0	0	0	0	0 00	0 0	0

Figure 17. DBCPLXR — Sample IMS Sysplex Activity View

22MAR2002 11: 46: 06 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----													
COMMAND ==> SCROLL ==> PAGE													
CURR WIN ==> 1 ALT WIN ==>													
<W1 =DBCPLXR=====IMSxxx==*=====22MAR2002==11: 46: 05====MVI MS====D====1													
IMS	Num	IMS	pl ex										
ID	BMPs	Name											
D19H	0												
D15H	0												
X18H	0												

Figure 18. DBCPLXR — Sample IMS Sysplex Activity View, Scrolled Right

To display this view, type DBCPLXR on any command line within IPSM, or type VIEWS on any command line, and then select the view name from the list of views displayed.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

Region/Thread Occupancy Views

This section describes the Region/Thread Occupancy views available to help you manage your IMS workflow. These views show BMP and JBP region processing, CICS and ODBA thread processing, and resource usage. They show how busy a region/thread is, as well as transaction processing rate. Regions/threads can be viewed for a single IMS, OS/390, a data sharing group, or across any grouping you choose.

Table 3 lists all available Region/Thread Occupancy views. The views are similar except for the time period that samples are taken. (Views with names ending in R display realtime data; the other views display data collected during a specific time interval.)

Table 3. Region/Thread Occupancy Views

View description	Name	Type
Region/thread occupancy	DRGOCCR	Realtime statistics for region/thread occupancy
	DRGOCC	Interval statistics
	DRGOCCGR	Realtime graph
	DRGOCCG	Interval graph
Region/thread processing summary	DRGOVWR	Realtime summary of region processing statistics
	DRGOVW	Interval summary
CCTL connections	DRGCCTL	Interval statistics for CCTL connections to IMS systems

All views are described in the online view help. To see online view help, do one of the following:

- Position the cursor on the view name on the window information line, and then press your help key.
- Type HELP and the name of the view on the command line, and then press Enter.

DRGOCCR View – Region/Thread Occupancy

The view shown in Figure 19 is an example of a realtime Region/Thread Occupancy view. This view and the others in this group show BMP and JBP region processing and CICS and ODBA thread processing, as well as resource usage.

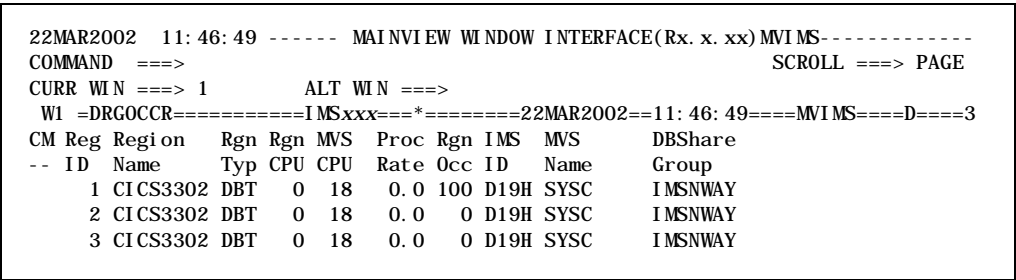


Figure 19. DRGOCCR — Sample Region/Thread Occupancy View

To display this view, type DRGOCCR on any command line within IPSM, or type VIEWS on any command line, and then select the view name from the list of views displayed.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

Chapter 5. Controlling UOW Elapsed Time and Transaction Delays

This chapter shows you how to use the components of response time (CORT) views to analyze and control unit of work (UOW) elapsed time and transaction delays. Then it describes how to use UOW Elapsed Time and Transaction Delay Analysis views to answer the following questions:

- Where are delays occurring?
- Which events are contributing to elapsed time?

IPSM provides elapsed time analysis views about units of work from IMS transactions that have completed or are in progress. These views help you quickly identify why elapsed time is not meeting your expectations—so you can improve it.

You can use these views to see

- Processing delays incurred by a unit of work when it tries to obtain a resource
- The resource associated with the delay
- IMS processing events occurring as units of work flow through the system (so you can see events that contribute to unit of work elapsed time)

IPSM also helps you analyze why a MAINVIEW VistaPoint workload is not meeting its objective. It allows you to view unit of work processing delays and events within a workload.

The information in IPSM views is hierarchical. Lower-level views give further, more detailed information related to the information shown at a higher level.

Interpreting Data in UOW Elapsed Time and Transaction Delay Analysis Views

The following points should be kept in mind when interpreting values reported in MAINVIEW for DBCTL UOW elapsed time and transaction delay analysis views.

- MAINVIEW for DBCTL (MVDBC) reports on the IMS activity incurred during the processing of CICS transactions requiring DL/I resources. It does not report on CICS activity overall. Therefore, for DBCTL threads, fields whose headers refer to response time are actually reporting elapsed time of the DL/I thread activity for a unit of work—not response time for the CICS transaction.

In interpreting values shown in the Elapsed Time fields, keep in mind that the CICS transaction may be made up of multiple DL/I units of work. In most cases, a CICS transaction is a single unit of work. However, it is possible for a CICS transaction to commit resources (completing the current UOW and beginning the next logical UOW) as part of the processing of a single CICS transaction. This is analogous to a BMP issuing checkpoint calls.

- MVDBC reports only activity that is a part of the IMS DBCTL. An application may have performed DB2 work, but not as part of its DBCTL thread activity. Therefore, this activity is not reported by MVDBC.

For information related to the total transaction execution, refer to data collected in views in the MAINVIEW for CICS product.

Note: MVDBC UOW Elapsed Time and Transaction Delay Analysis views display the most complete and meaningful information in target mode rather than SSI mode.

Analyzing UOW Elapsed Time Problems

You can use the DBCDTLGR view to investigate unit of work (UOW) elapsed time problems. From the DBCDTLGR view, you can hyperlink to other views that show transaction delays, processing events, or a trace of transaction occurrences.

To investigate lengthy elapsed time, you might start with the following views:

- IDLTR view - IMS delays by transaction

This view shows the major causes of delays for all IMS transactions or by workload. It identifies a delay when a transaction is waiting for a resource, and it provides a hyperlink to related views showing more detailed information.

- IFCTR view - IMS processing events by transaction

This view shows the major transaction flow components that affect elapsed time for all IMS transactions or a workload. From here you can hyperlink to other views to get more information about where transactions are spending their time.

Where Are Delays Occurring?

If the value in the UOWs Avg Elapsed field is high in the DBCDTLGR view, as shown in Figure 20, it could be because a transaction is waiting for a resource.

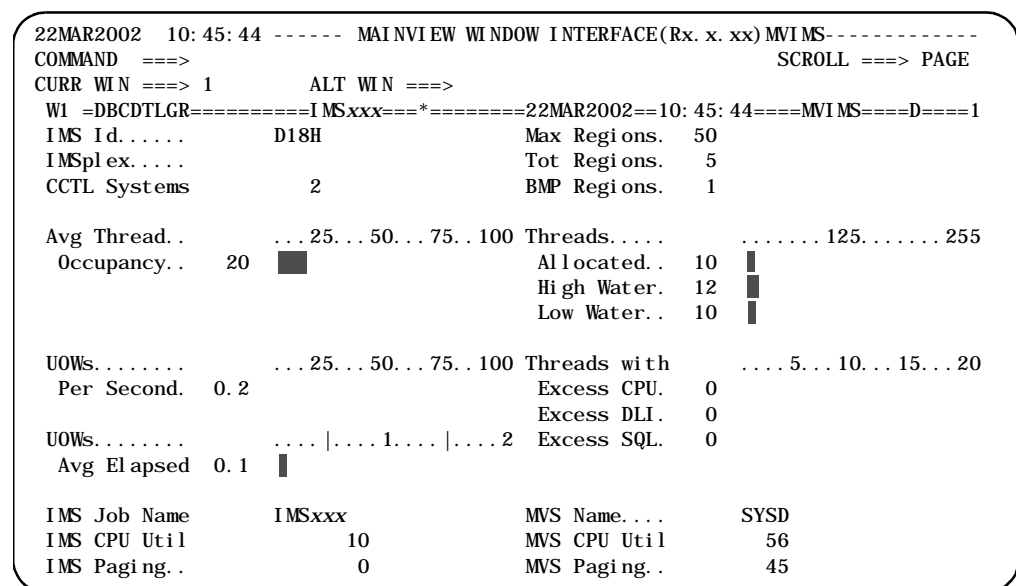


Figure 20. Field for Looking for Transaction Delays

If the value in UOWs Avg Elapsed is high, select this field and hyperlink from it to the IDLTR view. The IDLTR shows you the delays contributing to unit of work elapsed time. (This path of investigation is shown in Figure 21 on page 46.)

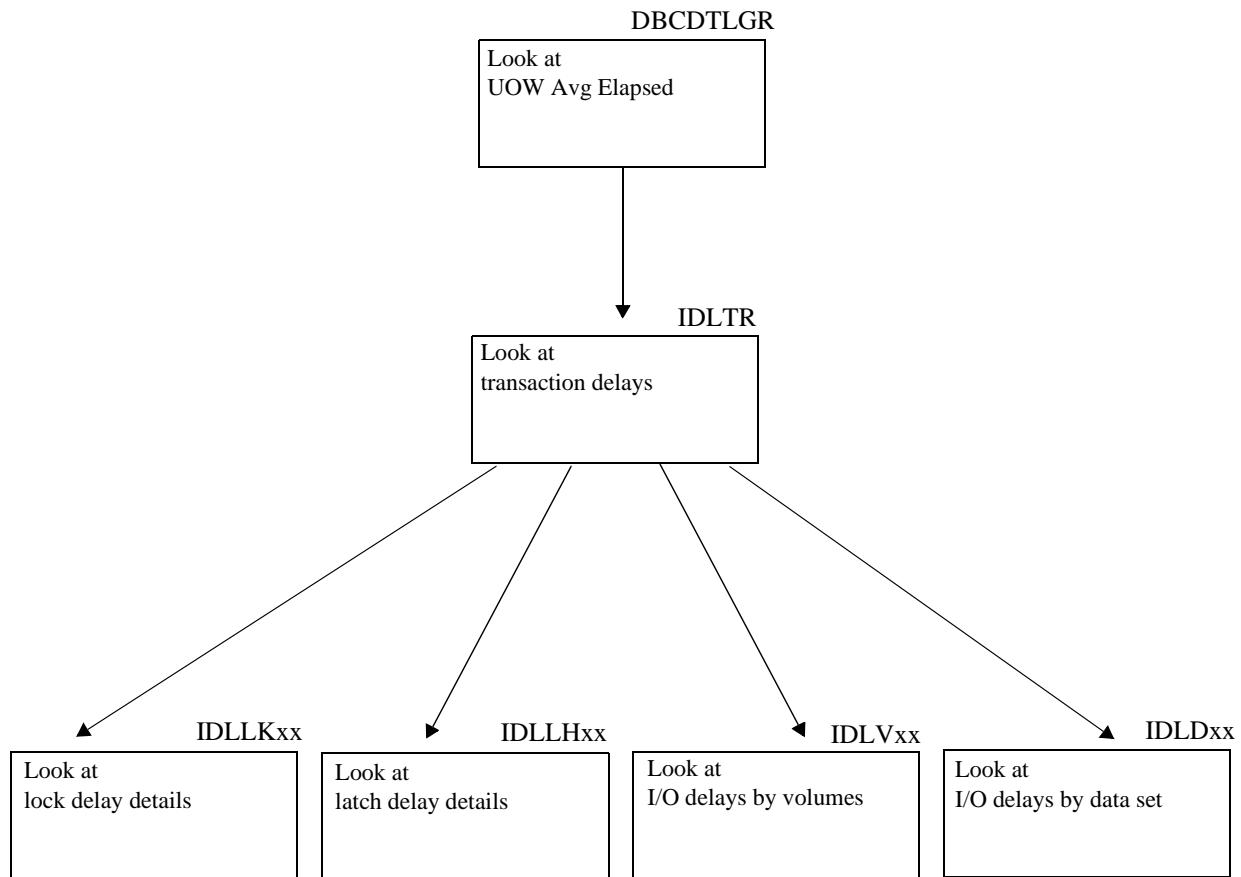


Figure 21. Views for Determining Where Delays Are Occurring

Viewing Transaction Delays

You can use the IDLTR view, shown in Figure 22 on page 47, to

- Quickly classify whether delays are caused by thread availability waits or processing delays
- Identify whether eliminating any of the delay factors would decrease unit of work elapsed time to the level you want
- Hyperlink to see delay details about
 - Locks
 - Latches
 - I/O
 - Pools
 - Other kinds of delays

to look for possible causes.

22MAR2002 10: 47: 59 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----													
COMMAND ==>										SCROLL ==> CSR			
CURR WIN ==> 1 ALT WIN ==>													
>W1 =IDLTR=====IMSxxx==*=====22MAR2002==10: 16: 56====MVI MS====D====1													
CMD	Trancode	Intvl	IMS	Avg Resp	%Inp	%CPU	%CPU	%I/O	%Lck	%Lth	%Pol	%Ot	
---	-----	Time-	ID	0...+...3	Que	Act	Dly	Dly	Dly	Dly	Dly	Dl	
	DLZZ	10: 16	D19H	3. 91	*****+	n/a	18		9	5	0	1	2
	THI SMI NQ	10: 16	D19H	1. 47	*****	n/a	9	6	25	26	1	0	2
	THDAMI NQ	10: 16	D19H	0. 21	**	n/a	9	39	13		0		2
	THI DMI NQ	10: 16	D19H	0. 10	*	n/a	28	17	3	9	1		2

Figure 22. IDLTR View

The IDLTR view shows all transactions processed. For each transaction processed, you can see how much elapsed execution time contributed to a transaction's response. If a delay field is highlighted, you can hyperlink from it to a more detailed view about that delay. For a detailed description of this view, see "IDLTR – Transaction Delays" on page 53.

Which Events Are Contributing to UOW Elapsed Time?

In addition to looking for delays when DBCDTLGR shows a high UOW average elapsed time, you can also look for transaction processing events that are contributing the most to elapsed time. Proceed from the DBCDTLGR view to the IFCTR view, as shown in Figure 23.

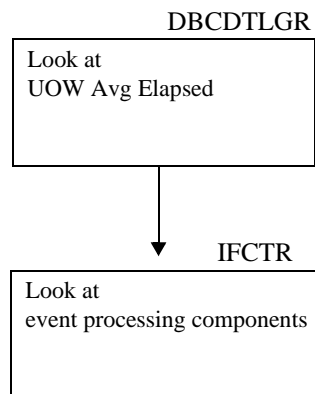


Figure 23. Views for Evaluating Transaction Processing Events

Viewing Transaction Processing Events

To display a view of processing events for all transactions, enter IFCTR on the command line, or type VIEWS on the command line and then select IFCTR from the resulting list of views. A third alternative is to display the IFCTR view by selecting the Tran Performance option from the DBCTL Easy or Fast Menu.

22MAR2002 10: 44: 43 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IFCTR=====IMSxxx==*=====22MAR2002==10: 16: 56====MVI MS====D====1									
CMD	Trancode	Intvl	IMS	Avg	Avg %Input Q		Avg %El apse		Avg % Avg %
---	-----	Time-	ID	Resp	0. . . . 50. . . 100		0. . . . 50. . . 100		Appl DLI
	DLZZ	10: 16	D19H	3. 91	n/a		100	*****	24 17
	DLZZ2	10: 16	D19H	3. 43	n/a		100	*****	47 13
	DLZZ3	10: 16	D19H	3. 24	n/a		100	*****	32 11
	DLZZ	10: 16	D19H	3. 91	n/a		100	*****	24 17

Figure 24. IFCTR View

You can use this view to

- Identify IMS processing events contributing to unit of work elapsed time
- Hyperlink from highlighted fields to details about the events that occurred to determine the major contributors to elapsed time

For example, if Avg DLI is high, you can hyperlink from this field to view DL/I execution events to determine the cause of the long execution.

For more information about these kinds of views, see “Views for Transaction Delay Analysis” on page 51.

Viewing a List of Completed Transaction Traces

You can view a list of completed transaction traces for

- A transaction displayed in the IFCTR view
- Any abnormal indicator displayed in the DBCDTLGR view, shown in Figure 25.

22MAR2002 10: 45: 44 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> PAGE				
CURR WIN ==> 1					ALT WIN ==>				
W1 =DBCDTLGR=====IMSxxx==*=====22MAR2002==10: 45: 44====MVI MS====D====1									
IMS Id.		D18H		Max Regions.		50			
IMSplex.				Tot Regions.		5			
CCTL Systems		2		BMP Regions.		1			
Avg Thread..		... 25... 50... 75... 100		Threads.....		..... 125..... 255			
Occupancy..		20		Allocated..		10		█	
				High Water.		12		█	
				Low Water..		10		█	
UOWs. ....		... 25... 50... 75... 100		Threads with		... 5... 10... 15... 20			
Per Second.		0. 2		Excess CPU.		0			
				Excess DLI.		0			
UOWs. ....		.... |.... 1.... |.... 2		Excess SQL.		0			
Avg Elapsed		0. 1		█					
IMS Job Name		IMSxxx		MVS Name...		SYSD			
IMS CPU Util		10		MVS CPU Util		56			
IMS Paging..		0		MVS Paging..		45			

Figure 25. Checking Fields to Look for Abnormal Indicator

You can also view a list of completed transaction traces recorded in historical trace log data sets. You can do this by accessing the ITALIST view from either the IFCTR view or the DBCDTLGR view. These two alternative paths for arriving at the ITALIST view are shown in Figure 26.

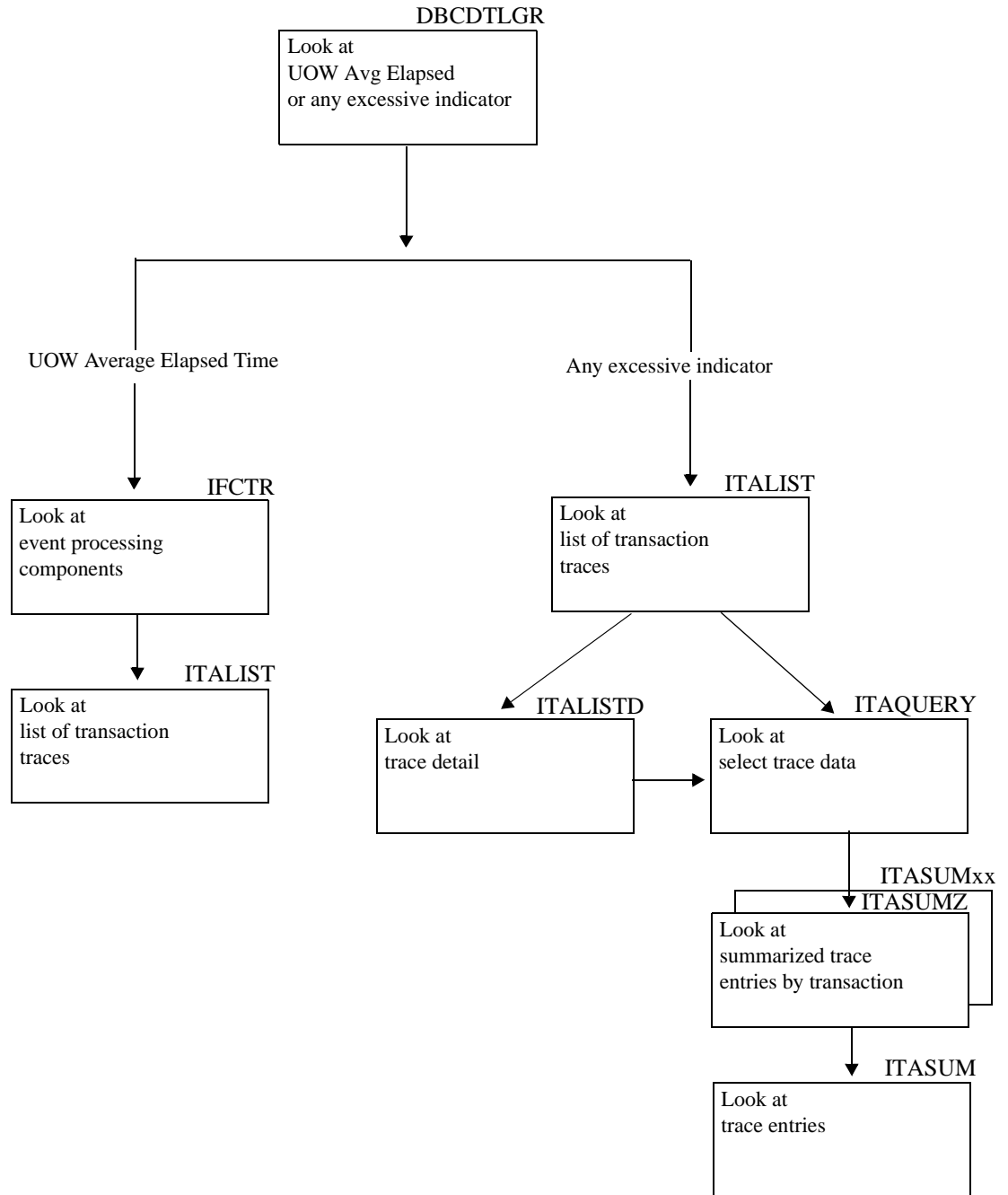


Figure 26. Views for Checking Completed Transaction Traces

ITALIST, shown in Figure 27, is also available as a menu option in the IMS Easy Menu (EZIMS).

22MAR2002 07:39:52 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----									
COMMAND ==>					SCROLL ==> PAGE				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =ITALIST=====IMSxxx==*=====22MAR2002==07:21:40====MVIMS====D====5									
End					Nbr of Trce Target Dsn				
-	End Date	Time	Trace Id	Trace Title	Trans	Type	Jobname	Id	
	21MAY2002	12:09	ABR3	ABREVIATED TRACE	25032	Abr	IMSxxx	32	
	21MAY2002	15:51	ABR3	ABREVIATED TRACE	15541	Abr	IMSxxx	31	
	21MAY2002	10:26	DETAIL	DETAIL WORKLOAD TRACE	2264	Det	IMSxxx	18	
	21MAY2002	15:34	DETAIL	DETAIL TRACE	1586	Det	IMSxxx	22	
	20JUN2002	09:48	SUMMARY	WORKLOAD TRACE	6053	Sum	IMSxxx	8	

Figure 27. ITALIST View

This group of views helps you analyze transaction performance. You can use it to obtain more information for further analysis by hyperlinking from it to

- An expanded view for more details about the transactions recorded in the trace
- A trace query view where you can formulate a query request to see only specific data that you want

For more information about tracing transactions, see Chapter 6, “Examining a User Application” on page 85.

Views for Transaction Delay Analysis

This section lists all the views available to help you manage transaction elapsed time. The views are grouped into the following categories:

- Transaction Delays
- Database I/O Delays
- Data set I/O Delays
- Volume I/O Delays
- Lock Delays
- Latch Delays

Measured data is displayed by these views in textual and/or graphical form. Scrolling right displays more data for that view. You can restrict view presentation by context, scope, or filters. (To see which restriction categories apply for a view, select the view name on the window information line inside the view, and then press your help key.)

To analyze transaction delays, start your analysis with the IDLTR view. This view shows all transactions and allows you to see the delays that contributed to each transaction's elapsed time. If a transaction shows an unusual elapsed time, select the transaction and hyperlink from it to an Easy Menu. The Easy Menu provides you with the following view options:

- Transaction delays (see Table 4 on page 52)
- Database I/O delays by transaction, PSB, IMS, volume, or data set (see Table 5 on page 59)
- Data set I/O delays by transaction, PSB, IMS, or volume (see Table 6 on page 63)
- Volume I/O delays by transaction, PSB, or IMS (see Table 7 on page 66)
- Pool delays (see page 58)
- Lock delays by transaction, PSB, IMS, or data set (see Table 8 on page 70)
- Latch delays by transaction, PSB, or IMS (see Table 9 on page 73)
- Other kinds of delays (see page 57)

As described in the *Using MAINVIEW* manual, you can customize views and create screens that include several views to meet your site's needs.

The information displayed in these views correlates event and sample data. The accuracy of the statistical analysis depends upon the number of observations made. In all these views, a Confidence Level column is included to reflect the accuracy of the analysis. If information shows a confidence level of None, do not spend time analyzing that information.

Transaction Delays

Table 4 lists all the views available for transaction delays. Descriptions of each view follow on the referenced pages.

Table 4. Transaction Delay Views

View	Name
Major transaction delays	IDLTR (see page 53)
I/O delays	IDLTRIO (see page 54)
Latch delays	IDLTRLH (see page 55)
Lock delays	IDLTRLK (see page 56)
Other kinds of delays	IDLTR0T (see page 57)
Pool delays	IDLTRPL (see page 58)

IDLTR – Transaction Delays

```

22MAR2002 10: 47: 59 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLTR=====IMSxxx==*=====22MAR2002==10: 16: 56====MVI MS====D====1
CMD Trancode Intvl IMS      Avg Resp  %Inp %CPU %CPU %I/O %Lck %Lth %Pol %Ot
--- ----- Time- ID      0...+...3 Que Act Dly Dly Dly Dly Dly Dly
DLZZ      10: 16 D19H 3. 91 *****+ n/a 18      9 5 0 1 2
THISMI NQ 10: 16 D19H 1. 47 ***** n/a 9 6 25 26 1 0 2
THDAMI NQ 10: 16 D19H 0. 21 **      n/a 9 39 13      0 2
THIDMI NQ 10: 16 D19H 0. 10 *      n/a 28 17 3 9 1 2

```

Figure 28. IDLTR View

You can access the IDLTR view by

- Hyperlinking from the UOWs Avg Elapsed field in the DBCDTLGR view
- Typing IDLTR on the command line
- Selecting the name from a list of views with the VIEWS command

A highlighted field column header indicates you can select the field to hyperlink to a more detailed view.

The Avg Resp field shows the average amount of time that units of work associated with each trancode spent in execution. This allows you to quickly determine whether there is a problem occurring in a processing event. The other columns break down the delays that occurred. A high percentage shown by any of these indicates where a potential problem could exist. For example, if the I/O delay percentage is high, the transaction may be waiting for a device. Hyperlinking from %I/O Dly provides a more detailed view of I/O delays to help you determine potential causes.

Hyperlinking from a field in the first column of the IDLTR view displays a menu. This menu serves as a platform to obtain more detailed information about the delays contributing to elapsed time for the scheduled transaction.

For online help, position the cursor on the name of the view or any field, and then press your help key.

IDLTRIO – I/O Delays by Transaction

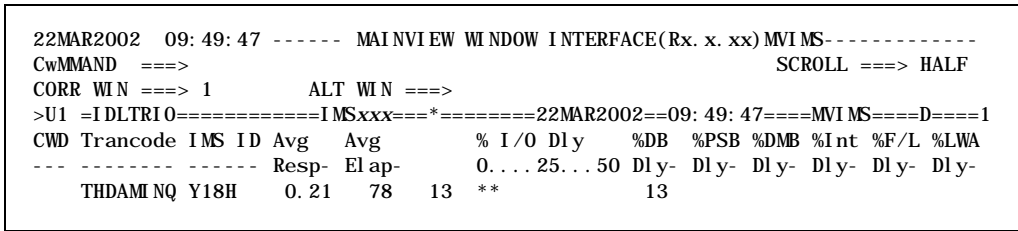


Figure 29. IDLTRIO View

You can access the IDLTRIO view to see I/O event contributors to transaction elapsed time by hyperlinking from a

- % I/O Dly field in the IDLTR view of transaction delays
- Transaction code in the Trancode column of the IDLTR view of transaction delays, and then selecting the I/O delays option from a menu

This view shows, for each transaction processed, what percentage of elapsed time an I/O event contributed to a transaction’s response. It identifies any I/O activity delays that occurred for

- Database reads and writes
- PSB reads for programs
- DMB reads for a database
- Intent list reads for a program
- Program fetch
- Log Write Ahead calls

Hyperlinking from %DB Dly provides more details about database delays. Hyperlinking from a field in the first column of the IDLTRIO view displays a menu. This menu serves as a platform to obtain more detailed information about the delays contributing to elapsed time.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLTRLH – Latch Delays by Latch

22MAR2002 11: 35: 13 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLTRLH=====IMSxxx==*=====22MAR2002==11: 35: 12====MVI MS====D====1									
CMD	Trancode	IMS	Latch ID	Avg % Dly	Min	Max	Confidence	PSBName	
---	-----	ID	-----	0. 5. 10 %Dly	%Dly	%Dly	Level	-----	
	THI DMI NQ	X18H	<Mi sc. . >	1 *		1	1	None	PHI DMI NQ

Figure 30. IDLTRLH View

You can access the IDLTRLH view by hyperlinking from the

- %Lth Dly field in the IDLTR view of transaction delays
- Trancode field in the IDLLHTR view of latch delays by transaction to see what latch delays contributed to elapsed time.

This view shows the transactions being delayed by latch waits and the effect each latch has on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about latch delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLTRLK – Lock Delays by Transaction

22MAR2002 14: 53: 48 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLTRLK=====IMSxxx==*=====22MAR2002==14: 53: 46====MVI MS====D====1									
CMD	Trancode	IMSID	Database	DCB	RBA/Type	Avg % Dly	Min	Max	Confidence
---	-----	-----	-----	-----	-----	0. 10. . . . 20 %Dly	%Dly	%Dly	Level
THI	DMI	NQ	Y18H	CUSTINDX	1	1 9 *****	9	9	None

Figure 31. IDLTRLK View

You can access the IDLTRLK view by hyperlinking from the % Lck Dly field in the IDLTR view of transaction delays to see which lock delays contributed to elapsed time.

This view shows the transactions being delayed by lock waits and the effect each resource has on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about lock delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLTROT – Other Delays by Transaction

```
22MAR2002 10: 43: 28 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLTROT=====IMSxxx==*=====22MAR2002==10: 43: 27====MVI MS====D====1
CMD Trancode IMS ID Avg      % Other Dly DBIn Mi sc DynA IRLM DBRC DB2
--- ----- Resp- El ap      0. . . 25. . . 50 Dly- Dly Dly- Dly- Dly- Dly
      THIDMI NQ X18H      0. 10  54  21 ****                      14
```

Figure 32. IDLTROT View

You can access the IDLTROT view by hyperlinking from the % 0th Dly field in the IDLTR view of transaction delays to see the effect on elapsed time caused by delays other than those due to I/O activity, pool, latch, or lock waits.

The IDLTROT view identifies any delays that occurred for

- Database intent, allocation, open, and recovery control
- IRLM
- Command execution
- AO requests
- Fast Path
- Log buffer

Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about transaction delays and response.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLTRPL – Pool Delays by Transaction

```

22MAR2002 09: 51: 24 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVIMS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>WI =IDLTRPL=====IMSxxx==*=====22MAR2002==09: 51: 24====MVIMS====D====1
CMD Trancode IMS ID Avg % % Pool Dly %DBW %DMB %PSB %PSB %FPC CIs
--- Resp- El ap- 0... 25... 50 Dly- Dly- Dly- EDly Dly- ---
THIDMINQ Y18H 0.10 54

```

Figure 33. IDLTRPL View

You can access the IDLTRPL view by hyperlinking from the %Pool Dly field in the IDLTR view of transaction delays to see which pool delays contributed to elapsed time.

This view shows, for each transaction processed, what percentage of elapsed time a storage wait for a pool contributed to a transaction's response. It identifies any delays that occurred for the following pool storage:

- DBWP
- DMBP
- PSB
- Extended private area of a PSB pool
- FPCB

Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about pool delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

Database I/O Delays

Table 5 lists all the views available for database I/O delays. Descriptions of each view follow on the referenced pages.

Table 5. Database I/O Delay Views

View	Name
I/O delays by database	IDLDB (see page 59)
Database I/O delays by data set	IDLDBD (see page 60)
Database I/O delays by IMS	IDLDBI (see page 60)
Database I/O delays by PSB	IDLDBP (see page 61)
Database I/O delays by transaction	IDLDBTR (see page 61)
Database I/O delays by volume	IDLDBV (see page 62)

IDLDB – I/O Delays by Database

22MAR2002 09: 20: 18 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLDB=====IMSxxx==*=====22MAR2002==09: 20: 18====MVI MS====D====2									
CMD	DB Name	%I / O	Dl y	Min	Max	Vol Ser	Workload	Confidence	
---	-----	0. . . . 15. . . 30	%Dl y	%Dl y	-----	-----	-----	Level	
	CUSTHDAM	5 **		3	7	BAB326	ALL_IMS	None	
	<Mi sc. . >	1		0	2	<Mi sc.	ALL_IMS	None	

Figure 34. IDLDB View

The IDLDB view shows the databases causing I/O delays and their impact on elapsed time. If the I/O delay percentage is high for a database, you can hyperlink from it to a menu. This menu allows you to choose more detailed delay views to help you determine the cause and impact of database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDBD – Database I/O Delays by Data Set

22MAR2002 09: 38: 38 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLDBD=====IMSxxx==*=====22MAR2002==09: 38: 37====MVI MS====D====2									
CMD	DB Name	DD Name	%I /O Dly	Min %	Max %	Vol Ser	Confidence		
---	-----	-----	0. . . . 15. . . 30 Dly--	Dly--	-----	Level			
	<Mi sc. . >	<Mi sc. . >	1	0	2	<Mi sc.	None		
	CUSTHDAM	CUSTHDAM	5 **	3	7	BAB326	None		

Figure 35. IDLDBD View

The IDLDBD view breaks down the database I/O delays by the data sets used. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

Note: For Fast Path, the DD Name field shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDBI – Database I/O Delays by IMS

22MAR2002 09: 32: 19 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLDBI=====IMSxxx==*=====22MAR2002==09: 32: 18====MVI MS====D====2									
CMD	DB Name	IMS ID	%I /O Dly	Min	Max	Vol Ser	Confidence		
---	-----	-----	0. . . . 15. . . 30 %Dly	%Dly	-----	Level			
	<Mi sc. . >	X18H	1	0	2	<Mi sc.	None		
	CUSTHDAM	X18H	5 **	3	7	BAB326	None		

Figure 36. IDLDBI View

The IDLDBI view shows the databases causing I/O delays and the impact on the IMS using that database. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDBP – Database I/O Delays by PSB

```

22MAR2002 09:22:04 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDBP=====IMSxxx====*=====22MAR2002==09:22:04====MVI MS====D====5

```

CMD	DB Name	PSBName	%I/O Dly	Min	Max	Vol Ser	Confidence
			0...15...30 %Dly	%Dly	%Dly		Level
<Mi sc. . >	PHI DMUPD	1		1	1	<Mi sc. None	
<Mi sc. . >	PHI SMINQ	2 *		2	2	<Mi sc. None	
<Mi sc. . >	PHI SMUPD	0		0	0	<Mi sc. None	
CUSTHDAM	PHDAMI NQ	7 ***		7	7	BAB326 None	
CUSTHDAM	PHDAMUPD	3 *		3	3	BAB326 None	

Figure 37. IDLDBP View

The IDLDBP view shows the databases causing I/O delays and the impact on the PSBs using them. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDBTR – Database I/O Delays by Transaction

```

22MAR2002 09:53:03 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDBTR=====IMSxxx====*=====22MAR2002==09:53:02====MVI MS====D====5

```

CMD	DB Name	Trancode	%I/O Dly	Min	Max	PSBName	Cls	Vol Ser	Confidence
			0...15...30 %Dly	%Dly	%Dly				Level
<Mi sc. . >	THI DMUPD	1		1	1	PHI DMUPD		<Mi sc. None	
<Mi sc. . >	THI SMINQ	2 *		2	2	PHI SMINQ		<Mi sc. None	
<Mi sc. . >	THI SMUPD	0		0	0	PHI SMUPD		<Mi sc. None	
CUSTHDAM	THDAMI NQ	7 ***		7	7	PHDAMI NQ		BAB326 None	
CUSTHDAM	THDAMUPD	3 *		3	3	PHDAMUPD		BAB326 None	

Figure 38. IDLDBTR View

The IDLDBTR view shows the databases causing I/O delays and the impact on each transaction using them. Hyperlinking from a field in the first column of the IDLDBTR view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDBV – Database I/O Delays by Volume

```
22MAR2002 09:37:39 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDBV=====IMSxxx==*=====22MAR2002==09:37:39====MVI MS====D====1
CMD DB Name Vol Ser %I/O Dly Min Max Confidence
---
CUSTHDAM BAB326 5 ** 0...15...30 %Dly %Dly Level
3 7 None
```

Figure 39. IDLDBV View

You can access the IDLDBV view by hyperlinking from a VolSer field in the IDLDB view of I/O delays by database. This view breaks down the database I/O delays by the volumes used. You can use it to see if a volume is the cause of a database I/O delay. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

Data Set I/O Delays

Table 6 lists all the views available for data set I/O delays. Descriptions of each view follow on the referenced pages.

Table 6. Data Set I/O Delay Views

View	Name
I/O delays by data set	IDLDD
Data set I/O delays by IMS	IDLDDI (see page 64)
Data set I/O delays by PSB	IDLDDP (see page 64)
Data set I/O delays by transaction	IDLDDTR (see page 65)
Data set I/O delays by volume	IDLDDV (see page 65)

IDLDD – I/O Delays by Data Set

22MAR2002 09: 42: 23 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLDD=====IMSxxx==*=====22MAR2002==09: 42: 23====MVI MS====D====2									
CMD	DD	Name	%I/O	Dly	Min	Max	Vol	Ser	Confidence
---	-----		0...	15...	30 %Dly	%Dly	-----	Level	
		CUSTHDAM	5	**	3	7	BAB326	None	
		<Mi sc. .>	1		0	2	<Mi sc.	None	

Figure 40. IDLDD View

The IDLDD view shows the data sets causing I/O delays and their impact on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a long data set I/O delay.

Note: For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDDI – Data Set I/O Delays by IMS

```
22MAR2002 09:57:24 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDDI=====IMSxxx==*=====22MAR2002==09:57:10====MVI MS====D====2
CMD DD Name IMS ID %I/O Dly Min Max Vol Ser Confidence
----- 0...15...30 %Dly %Dly ----- Level
<Mi sc. .> X18H 1 0 2 <Mi sc. None
CUSTHDAM X18H 5 ** 3 7 BAB326 None
```

Figure 41. IDLDDI View

The IDLDDI view shows the data sets causing I/O delays and the impact on the IMS using that data set. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDDP – Data Set I/O Delays by PSB

```
22MAR2002 09:56:08 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDDP=====IMSxxx==*=====22MAR2002==09:55:40====MVI MS====D====5
CMD DD Name PSBName %I/O Dly Min Max Vol Ser Confidence
----- 0...15...30 %Dly %Dly ----- Level
<Mi sc. .> PHIDMUPD 1 1 1 <Mi sc. None
<Mi sc. .> PHISMINQ 2 ** 2 2 <Mi sc. None
<Mi sc. .> PHISMUPD 0 0 0 <Mi sc. None
CUSTHDAM PHDAMINQ 7 *** 7 7 BAB326 None
CUSTHDAM PHDAMUPD 3 ** 3 3 BAB326 None
```

Figure 42. IDLDDP View

The IDLDDP view shows the data sets causing I/O delays and the impact on the PSBs using them. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDDTR – Data Set I/O Delays by Transaction

```
22MAR2002 09:54:01 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDDTR=====IMSxxx=====22MAR2002==09:54:00====MVI MS====D====5
CMD DD Name Trancode %I/O Dly Min Max Vol Ser Confidence
---
0...15...30 %Dly %Dly Level
<Mi sc. .> THIDMUPD 1 1 1 <Mi sc. None
<Mi sc. .> THISMINQ 2 * 2 2 <Mi sc. None
<Mi sc. .> THISMPD 0 0 0 <Mi sc. None
CUSTHDAM THDAMINQ 7 *** 7 7 BAB326 None
CUSTHDAM THDAMUPD 3 * 3 3 BAB326 None
```

Figure 43. IDLDDTR View

The IDLDDTR view shows the data sets causing I/O delays and the impact on each transaction using them. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLDDV – Data Set I/O Delays by Volume

```
22MAR2002 09:50:23 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDDV=====IMSxxx=====22MAR2002==09:50:23====MVI MS====D====1
CMD DD Name Vol Ser %I/O Dly Min Max Confidence
---
0...15...30 %Dly %Dly Level
CUSTHDAM BAB326 5 ** 3 7 None
```

Figure 44. IDLDDV View

You can access the IDLDDV view by hyperlinking from the VolSer field in the

- IDLDD view of I/O delays by data set
- IDLDDI view of data set I/O delays by IMS
- IDLDDP view of data set I/O delays by PSB
- IDLDDTR view of data set I/O delays by transaction

This view breaks down the data sets causing I/O delays by the volumes used. You can use the IDLDDV view to see if a volume is the cause of a data set I/O delay. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

Volume I/O Delays

Table 7 lists all the views available for volume I/O delays. Descriptions of each view follow on the referenced pages.

Table 7. Volume I/O Delay Views

View	Name
Major volume I/O delays	IDLVL (below)
Volume I/O delays by database	IDLVLDB (see page 67)
Volume I/O delays by data set	IDLVLDD (see page 67)
Volume I/O delays by IMS	IDLVLI (see page 68)
Volume I/O delays by PSB	IDLVLP (see page 68)
Volume I/O delays by transaction	IDLVLTR (see page 69)

IDLVL – I/O Delays by Volume

22MAR2002 09: 51: 58 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----						
COMMAND ==>				SCROLL ==> HALF		
CURR WIN ==> 1		ALT WIN ==>				
>W1 =IDLVL=====IMSxxx==*=====22MAR2002==09: 51: 58====MVIMS====D====2						
CMD	Vol Ser	%I / O Dly	Min	Max	Confidence	
---	-----	0. . . . 15. . . 30 %Dly	%Dly	Level		
	BAB326	5 **	3	7	None	
	<Mi sc.	1	0	2	None	

Figure 45. IDLVL View

The IDLVL view shows the volumes causing I/O delays and their impact on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a volume I/O delay.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLVLDB – Volume I/O Delays by Database

```
22MAR2002 13:35:38 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> HALF
CURR WIN ===> 1          ALT WIN ===>
>W1 =IDLVLDB=====IMSxxx=====22MAR2002==11:30:01====MVI MS====D====1
CMD Vol Ser DB Name      %I / O Dly      Min Max Confidence
-----
      BAB326 CUSTHDAM    7 ***              7 7 Medium
```

Figure 46. IDLVLDB View

The IDLVLDB view shows the volumes causing I/O delays and the impact on the databases using them.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLVLDD – Volume I/O Delays by Data Set

```
22MAR2002 18:20:31 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> HALF
CURR WIN ===> 1          ALT WIN ===>
W1 =IDLVLDD=====SYSB=====22MAR2002==18:20:31====MVI MS====D====5
CMD Vol Ser DD Name      %I / O Dly      Min Max Confidence
-----
      BAB321 CUSTDD01    8 ***              3 10 High
      BAB321 CUSTDD03    7 ***              7 7 Medium
      BAB322 CUSTDD02    5 **               2 8 High
      BAB322 CUSTDD11    8 ***              8 8 Medium
      BAB323 CUSTDD01    0                  0 0 High
```

Figure 47. IDLVLDD View

The IDLVLDD view shows the volumes causing I/O delays and the impact on the data sets they use. You can use it to see if a particular data set is causing the database delay. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLVLI – Volume I/O Delays by IMS

22MAR2002 10: 02: 13 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLVL I=====IMSxxx==*=====22MAR2002==10: 02: 11====MVI MS====D====2									
CMD	Vol Ser	IMS ID	%I /O Dly	Min	Max	Confidence			
---	-----	-----	0. . . 15. . . 30 %Dly	%Dly	%Dly	Level			
	<Mi sc.	X18H	1		0	2	None		
	BAB326	X18H	5 **		3	7	None		

Figure 48. IDLVLI View

The IDLVLI view shows the volumes causing I/O delays and the impact on the IMS using a volume.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLVLPS – Volume I/O Delays by PSB

22MAR2002 10: 00: 50 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLVLP=====IMSxxx==*=====22MAR2002==10: 00: 48====MVI MS====D====5									
CMD	Vol Ser	PSBName	%I /O Dly	Min	Max	Confidence			
---	-----	-----	0. . . 15. . . 30 %Dly	%Dly	%Dly	Level			
	<Mi sc.	PHI DMUPD	1		1	1	None		
	<Mi sc.	PHI SMINQ	2 *		2	2	None		
	<Mi sc.	PHI SMUPD	0		0	0	None		
	BAB326	PHDAMINQ	7 ***		7	7	None		
	BAB326	PHDAMUPD	3 *		3	3	None		

Figure 49. IDLVLP View

The IDLVLP view shows the volumes causing I/O delays and the impact on the PSBs using them.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLVLTR – Volume I/O Delays by Transaction

22MAR2002 10: 00: 50 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLVLP=====IMSxxx==*=====22MAR2002==10: 00: 48====MVI MS====D====5									
CMD	Vol Ser	PSBName	%I /O Dly		Min	Max	Confidence		
---	-----	-----	0. . . . 15. . . 30 %Dly		%Dly		Level		
<Mi sc.	PHI DMUPD		1		1	1	None		
<Mi sc.	PHI SMINQ		2 *		2	2	None		
<Mi sc.	PHI SMUPD		0		0	0	None		
BAB326	PHDAMI NQ		7 ***		7	7	None		
BAB326	PHDAMUPD		3 *		3	3	None		

Figure 50. IDLVLTR View

The IDLVLTR view shows the volumes causing I/O delays and the impact on each transaction using them.

For more information, you can position the cursor on any field in this view, and then press your help key.

Lock Delays

Table 8 lists all the views available for lock delays. Descriptions of each view follow on the referenced pages.

Table 8. Lock Delay Views

View	Name
Lock delays	IDLLK (below)
Lock delays by IMS	IDLLKI (see page 71)
Lock delays by PSB	IDLLKP (see page 71)
Lock delays by transaction	IDLLKTR (see page 72)

IDLLK – Lock Delays

22MAR2002 10: 00: 50 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDLVL P=====IMSxxx==*=====22MAR2002==10: 00: 48====MVI MS====D====5									
CMD	Vol Ser	PSBName	%I /O Dly		Min	Max	Confidence		
---	-----	-----	0 . . . 15 . . 30		%Dly	%Dly	Level		
<Mi sc.	PHI DMUPD	1			1	1	None		
<Mi sc.	PHI SMI NQ	2 *			2	2	None		
<Mi sc.	PHI SMUPD	0			0	0	None		
BAB326	PHDAMI NQ	7 ***			7	7	None		
BAB326	PHDAMUPD	3 *			3	3	None		

Figure 51. IDLLK View

The IDLLK view shows the locks causing transaction delays and their impact on elapsed time. You can hyperlink from a field in the first column to a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a lock delay.

Note: For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLLKI – Lock Delays by IMS

```
22MAR2002 10:00:29 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLLKI=====IMSxxx==*=====22MAR2002==10:00:29====MVI MS====D====4
CMD Database DCB RBA/Type IMSID Avg % Dly Min Max Confidence
--- Name----- 0....10....20 %Dly %Dly Level
<Mi sc. . > X18H 1 * 1 1 None
CUSTHISM 1 E X18H 15 ***** 15 15 None
CUSTHISM 1 12 X18H 19 ***** 19 19 None
CUSTINDX 1 1 X18H 9 ***** 9 9 None
```

Figure 52. IDLLKI View

The IDLLKI view shows the locks causing delays and the impact on an IMS. For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLLKP – Lock Delays by PSB

```
22MAR2002 10:00:29 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLLKI=====IMSxxx==*=====22MAR2002==10:00:29====MVI MS====D====4
CMD Database DCB RBA/Type IMSID Avg % Dly Min Max Confidence
--- Name----- 0....10....20 %Dly %Dly Level
<Mi sc. . > X18H 1 * 1 1 None
CUSTHISM 1 E X18H 15 ***** 15 15 None
CUSTHISM 1 12 X18H 19 ***** 19 19 None
CUSTINDX 1 1 X18H 9 ***** 9 9 None
```

Figure 53. IDLLKP View

You can access the IDLLKP view by hyperlinking from a PSBName field in the IDLLKTR view of lock delays by transaction. The IDLLKP view shows the locks causing delays and the impact on a PSB. For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLLKTR – Lock Delays by Transaction

22MAR2002 10: 00: 29 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLLKI=====IMSxxx==*=====22MAR2002==10: 00: 29====MVIS====D====4
CMD Database DCB RBA/Type IMSID Avg % Dly Min Max Confidence
--- Name----- 0. 10. 20 %Dly %Dly Level
<Mi sc. . > X18H 1 * 1 1 None
CUSTHISM 1 E X18H 15 ***** 15 15 None
CUSTHISM 1 12 X18H 19 ***** 19 19 None
CUSTINDX 1 1 X18H 9 ***** 9 9 None

Figure 54. IDLLKTR View

The IDLLKTR view shows the lock causing delays and the impact on each transaction. For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

Latch Delays

Table 9 lists all the views available for latch delays. Descriptions of each view follow on the referenced pages.

Table 9. Latch Delay Views

View	Name
Latch delays	IDLLH (below)
Latch delays by IMS	IDLLHI (see page 74)
Latch delays by PSB	IDLLHP (see page 74)
Latch delays by transaction	IDLLHTR (see page 75)

IDLLH – Latch Delays

22MAR2002 10: 01: 15 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MWIMS-----									
COMMAND ==>					SCROLL ==> HALF				
CURR WIN ==> 1					ALT WIN ==>				
W1 =IDLLH=====IMSxxx==*=====22MAR2002==10: 01: 15====MWIMS====D==1									
CMD	Latch	Avg % Dly		Min	Max	Confidence			
---	ID-----	0. 5. 10 %Dly		%Dly	%Dly	Level			
<Mi sc. . >		1	*	0	2	None			

Figure 55. IDLLH View

The IDLLH view shows the latches causing transaction delays and their impact on elapsed time. You can hyperlink from a field in the first column to a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a latch delay.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLLHI – Latch Delays by IMS

```
22MAR2002 10:04:21 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLHI=====IMSxxx==*=====22MAR2002==10:04:20====MVI MS====D====1
CMD Latch   IMS          Avg % Dly      Min  Max  Confidence
--- ID----- ID-----  0. .... 5. .... 10 %Dly %Dly Level
  <MISC. .> Y18H        1 *                0  2 None
```

Figure 56. IDLLHI View

You can access the IDLLHI view by hyperlinking from an IMS ID field in the IDLLHTR view of latch delays by transaction. This view shows the latches causing delays and the impact on an IMS.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLLHP – Latch Delays by PSB

```
22MAR2002 10:03:16 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLHP=====IMSxxx==*=====22MAR2002==10:03:16====MVI MS====D====1
CMD Latch   PSBName      Avg % Dly      Min  Max  Confidence
--- ID----- ID-----  0. .... 5. .... 10 %Dly %Dly Level
  <MISC. .> PHDAMINQ    2 **                2  2 None
```

Figure 57. IDLLHP View

You can access the IDLLHP view by hyperlinking from a PSBName field in the

- IDLLHTR view of latch delays by transaction
- IDLTRLH view of latch delays by latch

This view shows the latches causing delays and the impact on a PSB.

For more information, you can position the cursor on any field in this view, and then press your help key.

IDLLHTR – Latch Delays by Transaction

22MAR2002 11:32:25 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ===> SCROLL ===> CSR
CURR WIN ===> 1 ALT WIN ===>
>W1 =IDLLHTR=====IMSxxx==*=====22MAR2002==11:30:54====MVIMS====D====4

CMD	Latch	Trancode	Avg % Dly	Min	Max	IMS	PSBName	Cls	Confidence
---	ID-----	-----	0. 5. 10 %Dly	%Dly	%Dly	ID	-----	---	Level
	<Mi sc. . >	THDAMI NQ	2 **	2	2	Y18H	PHDAMI NQ		None
	<Mi sc. . >	THDAMUPD	1 *	1	1	Y18H	PHDAMUPD		None
	<Mi sc. . >	THI DMI NQ	1 *	1	1	Y18H	PHI DMI NQ		None
	<Mi sc. . >	THI SMUPD	0	0	0	Y18H	PHI SMUPD		None

Figure 58. IDLLHTR View

The IDLLHTR view shows the latches causing delays and the impact on each transaction.

For more information, you can position the cursor on any field in this view, and then press your help key.

Views for UOW Elapsed Time Analysis

This section lists all the views available to help you identify the unit of work processing events that are contributing to unit of work elapsed time. The views are classified into the components of transaction flow through IMS.

Measured data is displayed by these views in textual form, graphical form, or both. Scrolling right displays more data for that view. You can restrict view presentation by context, scope, or filters. (To see which restriction categories apply to a view, position the cursor on the view name on the window information line within the view, and then press your help key.)

To analyze transaction response, start with the IFCTR view. This view allows you to

- View processing events for all transactions
- See the IMS processing events that contributed to each transaction's elapsed time
- Determine where transactions spend their time during IMS processing

Within the IFCTR view, select a trancode and then hyperlink from it to an Object Easy Menu. The Object Easy Menu provides you with the following view options:

- Transaction processing events relative to DBCTL
- Workload processing events
- Application
- DL/I
- DL/I calls
- Sync point
- ROLS
- Scheduling

As described in the *Using MAINVIEW* manual, you can customize views and create screens that include several views to meet your site's needs.

IMS Processing Events

Table 10 lists all the views available for IMS processing events. Descriptions of each view follow on the referenced pages.

Table 10. IMS Processing Event Views

View	Name
Major IMS processing events	IFCTR (see page 78)
Application	IFCTRA (see page 79)
DL/I	IFCTRD (see page 80)
DL/I calls	IFCTRI (see page 81)
Sync point	IFCTRP (see page 82)
ROLS	IFCTRR (see page 83)
Scheduling	IFCTRS (see page 84)

IFCTR – Processing Events by Transaction

22MAR2002 10: 44: 43 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IFCTR=====IMSxxx==*=====22MAR2002==10: 16: 56====MVI MS====D====1									
CMD	Trancode	Intvl	IMS	Avg	Avg %InputQ		Avg %El apse		Avg % Avg %
---	-----	Time-	ID	Resp	0. 50... 100		0. 50... 100		Appl DLI
	DLZZ	10: 16	D19H	3. 91	n/a		100	*****	24 17
	DLZZ2	10: 16	D19H	3. 43	n/a		100	*****	47 13
	DLZZ3	10: 16	D19H	3. 24	n/a		100	*****	32 11
	DLZZ	10: 16	D19H	3. 91	n/a		100	*****	24 17

Figure 59. IFCTR View

You can access the IFCTR view by

- Hyperlinking from the Tran Processing option of the EZIMS or EZIFAST menu
- Typing the view name on the command line
- Typing VIEWS, and then selecting IFCTR from the list of views

A highlighted field column header indicates you can select the field to hyperlink to a more detailed view.

The Avg Resp field shows the average amount of time that units of work associated with each tranocode spent in execution, which allows you to quickly determine whether there is a problem occurring in a processing event (%Elap). The other columns break down the events that occurred as IMS processed the transaction. A high percentage shown by any of these events indicates where a potential problem could be. For example, if Avg Appl is high, you can hyperlink to a view of application processing for that transaction to see what process may be contributing to this event.

Hyperlinking from a field in the first column of the IFCTR view displays a menu. This menu serves as a platform to obtain more detailed information about the IMS processing events contributing to elapsed time.

For more information, you can position the cursor on any field in this view, and then press your help key.

IFCTRA – Application by Transaction

```
22MAR2002 10:32:01 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> HALF
CURR WIN ===> 1          ALT WIN ===>
>W1 =IFCTRA=====IMSxxx====*=====22MAR2002==10:32:01====MVI MS====D====1
CMD Trancode IMS Avg          Avg % Appl          %CPU %CPU %I/O %F/L %SVC %0th
--- ----- ID Resp          0.....25.....50 Act Dly Dly Dly Dly Dly
      TDRIVER Y18H 1053. 27 *****              6 2              16 2
```

Figure 60. IFCTRA View

You can access the IFCTRA view by

- Hyperlinking from the Avg % Appl field in the IFCTR view of IMS processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in application processing. It shows where time was spent, such as waiting for CPU to be available (%CPU Dly) or program fetch and load delay (%F/L Dly), and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IFCTRD – DL/I by Transaction

```
22MAR2002 05:34:07 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> CSR
CURR WIN ==> 1 ALT WIN ==>
>W1=IFCTRD=====IMSxxx==*=====22MAR2002==05:34:07====MVI MS====D====1
CMD Trancode IMS Avg % Avg DLI Avg% Avg% Avg% Confidence
--- ----- ID Resp 0. .... 25. .... 50 Cal1 ROLS Sync Level
TDRI VER Y18H 1053. 73 *****+ 20 53 Hi gh
```

Figure 61. IFCTRD View

You can access the IFCTRD view by

- Hyperlinking from the Avg % DLI field in the IFCTR view of IMS processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in DL/I execution. It shows where time was spent and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IFCTRI – DL/I Calls by Transaction

```
22MAR2002 10:46:05 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> HALF
CURR WIN ===> 1          ALT WIN ===>
>W1 =IFCTRI=====IMSxxx====*=====22MAR2002==10:46:05====MVI MS====D====1
CMD Trancode IMS Avg          Avg % DLI          %CPU %CPU %I/O %Lck %Lch %Oth
--- ----- ID  Resp      0. .... 25. .... 50 Act  Dly  Dly  Dly  Dly  Dly
      TDRI VER  Y18H 1053. 20 *****          6   9          0   5
```

Figure 62. IFCTRI View

You can access the IFCTRI view by

- Hyperlinking from the Avg % Call field in the IFCTRD view of DL/I execution events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in DL/I call processing. It shows where time was spent and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IFCTRP – Sync Point by Transaction

22MAR2002 10: 50: 38 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----												
COMMAND ==>						SCROLL ==> HALF						
CURR WIN ==> 1			ALT WIN ==>									
>W1 =IFCTRP=====IMSxxx==*=====22MAR2002==10: 50: 38====MVI MS====D====1												
CMD Trancode		IMS	Avg	Avg %Sync		%CPU	%CPU	%I/O	%Lck	%Lch	%0th	
--- -----		ID	Resp	0. 15. 30		Act	Dly	Dly	Dly	Dly	Dly	
TDRI VER		Y18H	1053.	53	*****+		5	0	48			

Figure 63. IFCTRP View

You can access the IFCTRP view by

- Hyperlinking from the Avg% Sync field in the IFCTRD view of DL/I processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in sync point processing. It shows where time was spent by the IMS sync point manager in acquiring resources and the impact on transaction elapsed time by that event. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IFCTRR – ROLS by Transaction

```
22MAR2002 10:52:34 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> HALF
CURR WIN ===> 1          ALT WIN ===>
>W1 =IFCTRR=====IMSxxx====*=====22MAR2002==10:52:34====MVI MS====D====1
CMD Trancode IMS Avg          Avg % ROLS          %CPU %CPU %I/O %Lck %Lch %Oth
--- ----- ID Resp          0. .... 25. .... 50 Act Dly  Dly  Dly  Dly  Dly
      THISMINQ Y18H 0.87 19 *****              14    1          4
```

Figure 64. IFCTRR View

You can access the IFCTRR view by

- Hyperlinking from the Avg% ROLS field in the IFCTRD view of DL/I processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in ROLS processing. It shows where time was spent and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

IFCTRS – Scheduling by Transaction

```
22MAR2002 10:30:10 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IFCTRS=====IMSxxx====*=====22MAR2002==10:30:10====MVIS====D====1
CMD Trancode IMS Avg Avg % Sched %CPU %CPU %I/O %Pol %Lch %Oth
--- ----- ID Resp 0.....15.....30 Act Dly Dly Dly Dly Dly
THIDMI NQ Y18H 0.17 8 **** 1 6 0 2
```

Figure 65. IFCTRS View

You can access the IFCTRS view by

- Hyperlinking from the Trancode field in the IFCTR view of IMS processing events and selecting it as a menu option
- Hyperlinking to it from the IFCTRQ view
- Typing its name on the command line

This view shows the average amount of time a transaction spent in scheduling. It shows where time was spent by the IMS scheduler in acquiring resources and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

Chapter 6. Examining a User Application

This chapter explains how to use the Transaction Trace views to examine problem trends with a user application, transaction, or program. These views help you identify the cause of problem trends. You can use these views to solve performance problems detected by

- MAINVIEW VistaPoint
- UOW Elapsed Time and Delay Analysis views
- Your user

As shown in Figure 66, to investigate poor application performance, start by viewing a list of completed transaction traces.

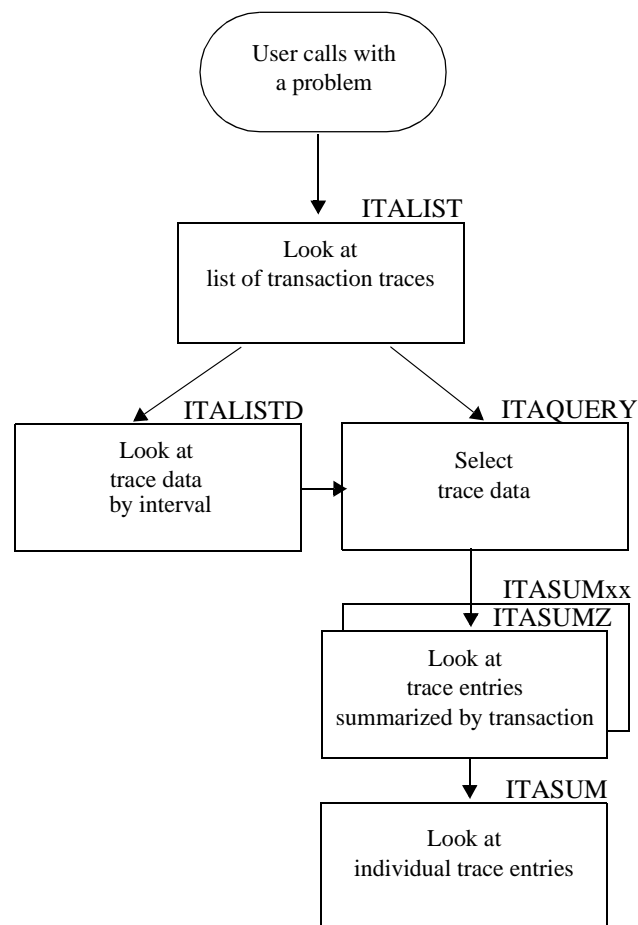


Figure 66. Tracing an Application

From the ITALIST view, you can access all currently active traces, as well as historical traces collected from the trace log data sets.

ITALIST hyperlinks allow you to select

- A trace query request where you can change and/or run the request against collected data
This allows you to select trace data you want to view.

- Details about the contents of trace data

Using the detailed view, you can see average highs, lows, and trends. You can also hyperlink to a summary trace view qualified by a trace query request per time interval. Trace summary views group trace data by attributes, such as transaction code, PSB, IMS, or user.

For more information about ITALIST, see “ITALIST – List of Transaction Trace Data Sets” on page 89.

Interpreting Data in Transaction Trace Views

The following points should be kept in mind when interpreting values reported in MAINVIEW for DBCTL (MVDBC) transaction trace views.

- MVDBC reports on the IMS activity incurred during the processing of CICS transactions requiring DL/I resources. It does not report on CICS activity overall. Therefore, for DBCTL threads, fields whose headers refer to response time are actually reporting elapsed time of the DL/I thread activity for a unit of work—not response time for the CICS transaction.

The CICS transaction may contain multiple DL/I units of work. In most cases, a CICS transaction is made up of one unit of work. It is possible for a CICS transaction to commit resources (completing the current UOW and beginning the next logical UOW) as part of the processing of a single CICS transaction. This is analogous to a BMP issuing checkpoint calls.

- MVDBC reports only activity that is a part of the IMS DBCTL. An application may have performed DB2 work, but not as part of its DBCTL thread activity. Therefore, this activity is not reported by MVDBC.

For information related to the total transaction execution, refer to data collected in views in the MAINVIEW for CICS product.

Views for Application Performance Analysis

This section describes the views you can use to isolate application performance problems.

Transaction Trace Views

Table 11 lists all of the views available in for transaction traces.

All views are described in the online help. From a view:

- Select the name of the view and press your help key.
- Enter HELP and the name of the view on the command line.

Table 11. Transaction Trace Views

View	Name	Description
Trace list	ITALIST	List of transaction traces
	ITALISTD	Trace detail by time intervals
Trace query	ITAQUERY	Trace data selection
Summarized trace	ITASUM	Trace entries
	ITASUMI	Trace entries summarized by IMS
	ITASUMIP	Trace entries summarized by IMS by PSB
	ITASUMIT	Trace entries summarized by IMS by transaction
	ITASUMP	Trace entries summarized by PSB
	ITASUMPI	Trace entries summarized by PSB by IMS
	ITASUMTI	Trace entries summarized by transaction by IMS
	ITASUMU	Trace entries summarized by user
	ITASUMUT	Trace entries summarized by user by transaction
	ITASUMZ	Trace entries summarized by transaction

ITALIST – List of Transaction Trace Data Sets

22MAR2002 10: 24: 15 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =ITALIST===== (ALL=====IMSxxx=) 22MAR2002==10: 24: 14====MVI MS====D==346									
End						Number	Service	Target	
End Date	Time	Trace Id	Trace Title	Type	State	Trans	Status	Jobname	
N/A	N/A	IPSMSUM	SUMMARY TRACE - TE	Sum	Curr		Qui esce	IMSxxx	
16APR2002	11: 10	IPSMSUM	IPSM SUM TRACE	Sum	Hi st	326		IMSxxx	
16APR2002	08: 32	IPSMSUM	IPSM SUM TRACE	Sum	Hi st	112		IMSxxx	
16APR2002	08: 18	IPSMDET	IPSM DET TRACE	Det	Hi st	24		IMSxxx	
16APR2002	06: 18	IPSMSUM	IPSM SUM TRACE	Sum	Hi st	242		IMSxxx	
14APR2002	07: 43	IPSMABR	IPSM ABR TRACE	Abr	Hi st	4322		IMSxxx	

Figure 67. ITALIST View

You can access the ITALIST view by performing one of the following:

- Hyperlinking to it from any Transaction Traces menu option in the EZMenu
- Typing its name on the command line

ITALIST is a view of trace entries. Each line reports on an individual trace. It shows the last recorded date and time, trace ID and description, total number of trace records for each entry, trace type (detail, summary, or abbreviated) target jobname, and the data set token ID. Scrolling right provides more information, such as first and last recorded start date and time and the number of data sets. Selecting

- End Time hyperlinks to the ITAQUERY view for the trace you select and sets TIME for the query to the last interval recorded in the trace
- Trace ID hyperlinks to the ITAQUERY view for the trace you select
- Nbr of Trans hyperlinks to the ITALISTD view for the trace you select

For more information, you can position the cursor on any field in this view, and then press your help key.

ITALISTD – Trace Detail

22MAR2002 16: 53: 41 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----										
COMMAND ==>							SCROLL ==> HALF			
CURR WIN ==> 1			ALT WIN ==>							
>W1 =ITALISTD=====IMSxxx==*=====22MAR2002==16: 51: 45====MVIMS====D====4										
- Date	Start Time	End Time	Nbr of Trans	Avg Resp	Avg InpQ	Avg Elap	Avg DL/I	Avg I/O	Avg DB2	Abend Cnt
21MAY2002	11: 15	11: 30	12852	0. 094	0. 000	0. 094	7	0		0
21MAY2002	11: 30	11: 45	921	0. 086	0. 000	0. 086	37	0		0
21MAY2002	11: 45	12: 00	5709	0. 093	0. 000	0. 093	7	0		0
21MAY2002	12: 00	12: 15	5550	0. 096	0. 000	0. 096	7	0		0

Figure 68. ITALISTD View

You can access the ITALISTD view by hyperlinking to it from the Nbr of Trans field in the ITALIST view

ITALISTD shows the data collected in the active trace buffer if trace is active and, as well as in a historical trace log data set if the LOG option for the trace is selected. It provides statistics showing

- How many trace records were written in a period of time
- Averages for UOW elapsed time, database calls, and I/O
- Maximums and minimums for elapsed time

Selecting an element from Nbr of Trans hyperlinks to the ITAQUERY view, where you can restrict trace data display by running a query request against the collected data. The query request is primed with the average values calculated by ITALISTD. You can run the request with these values or you can replace them. This allows you to look for worse than average cases.

For more information, you can position the cursor on any field in this view, and then press your help key.

ITAQUERY – Select Trace Data

```
22MAR2002 16:46:33 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ===>                                SCROLL ===> HALF
CURR WIN ===> 1          ALT WIN ===>
W1 =ITAQUERY=====IMSxxx==*=====22MAR2002==16:46:31====MVIMS====D====1
                                Trace Query Parameters

Command. .... (required)                                R- Run, Q- Edit QWHERE
Traceid, DsnId (required) ABR3, 32

Time Period. .... 21MAY2002 12:09 11                    Update with TIME command
Workload Name. .... *
Transaction Code. .... *
PSB Name. .... *
Response Time      >= 0.5
Elapsed Time       >= 0.5
```

Figure 69. ITAQUERY View

You can access this view by

- Hyperlinking to it from an End Time or Trace ID field in the ITALIST view
- Entering the view name on the command line

You can use this view to create and execute a query against the trace data in a trace data set. Trace data is selected by the trace ID and the data set name ID (or token) in the Traceid and DsnId fields. The data retrieved is displayed in the ITASUMZ view.

You must enter either R to RUN your query request or Q to modify the QWHERE clause used by the query. QWHERE allows you to create complex expressions and use other trace filter parameters.

You can specify other trace query parameters for trace ID, data set ID, transaction code, PSB name, and thresholds for response and elapsed time

Note: Trace may record a large number of UOWs (units of work) in an interval. To reduce the number of UOWs returned, specify filtering criteria.

ITASUM – Trace Entries

22MAR2002 09: 33: 19 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVIMS-----												
COMMAND ==>						SCROLL ==> HALF						
CURR WIN ==> 1			ALT WIN ==>									
>W1 =ITASUM=====IMSxxx=====22MAR2002==09: 29: 36====MVIMS====D====5												
--	Trancode	Type	Trn Time	Resps Time	Elapsd Time	DLI Calls	DLI I/O	DB2 Calls	Total CPU	DLI CPU	DB2 CPU	End Time
	THIDMINQ	DBT	1. 960	1. 960	1. 960	7			0. 0064	0. 0031	0. 000	10: 07: 02. 84
	THIDMINQ	DBT	1. 230	1. 230	1. 230	7			0. 0064	0. 0033	0. 000	10: 07: 05. 74
	THIDMINQ	DBT	1. 250	1. 250	1. 250	6			0. 0063	0. 0053	0. 000	10: 07: 15. 47
	THIDMINQ	DBT	1. 200	1. 200	1. 200	9			0. 0166	0. 0041	0. 000	10: 07: 23. 27
	THIDMINQ	DBT	1. 370	1. 370	1. 370	9			0. 0116	0. 0069	0. 000	10: 07: 55. 78

Figure 70. ITASUM View

You can access the ITASUM view by

- Hyperlinking from the Cnt field in the ITASUMZ view
- Entering the view name on the command line

This view shows transaction occurrences for a given time period:

- Elapsed time for each unit of work
- Total CPU time and DL/I CPU time for the unit of work
- Number of DL/I database calls

Scrolling right provides more trace data. You can hyperlink from a field in the first column of this view to a trace menu.

For more information, you can position the cursor on any field in this view, and then press your help key.

ITASUMZ – Trace Entries Summarized by Transaction

22MAR2002 14:01:46 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MWIMS-----												
COMMAND ==>										SCROLL ==> CSR		
CURR WIN ==> 1				ALT WIN ==>								
>W1 =ITASUMZ=====IMSxxx==*=====22MAR2002==10:45:01====MWIMS====D=====3												
	Trn	Resps	Input	Elapsd	DLI	DLI	DB2	Total	DLI	DB2		
--	Trancode	Cnt	Type	Time	Queue	Time	Calls	I/O	Calls	CPU	CPU	CPU
	THIDMINQ	100	DBT	0.056	0.000	0.056	6	0		0.0101	0.0054	0.000
	THIDMUPD	100	DBT	0.035	0.000	0.035	2			0.0056	0.0004	0.000
	THISMINQ	100	DBT	0.144	0.000	0.144	10	0		0.0133	0.0077	0.000

Figure 71. ITASUMZ View

You can access the ITASUMZ view by

- Requesting a trace query with the ITAQUERY view
- Entering the view name on the command line

This view shows transactions summarized by transaction code. It provides transaction execution details. You can hyperlink from a field in the first column of this view to a trace object menu. From the trace object menu, you can select other trace summary grouping options for further analysis, to refine a query request, or to select trace data from a different time period.

For more information, you can position the cursor on any field in this view, and then press your help key.

Chapter 7. Monitoring IMS Workloads and Resources

From the IMSplex System Manager (IPSM) view environment, you can request the Workload Monitor and Resource Monitor services described in the *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*. These services are timer-driven monitors that measure IMS workload and resources over time as requested by a user. Once a monitor is active, you can use the following set of views.

IMON	Shows how many monitors are active for each target and the number that are in a warning condition
ISERV	Lists all active monitors
IMAREAZ	Shows how many monitors are active by IMS area and the number that are in a warning condition for each target
IMWARN	Lists all monitors in a warning condition

To access these views, you can enter the view name on the command line.

Starting with IMON shows you how many monitors are running. From there, you can hyperlink to

- **ISERV** to see the monitor values
You can select a monitor displayed by ISERV and hyperlink to a view of a plot produced by that monitor.
- **IMAREAZ** to see the monitors summarized by target area
You can hyperlink from here to ISERV, select a monitor, and view a plot from that monitor.
- **IMWARN** to see only those monitors in warning
You can select a monitor displayed by IMWARN and hyperlink to a view of a plot produced by that monitor. Easy Menus also provide hyperlinks to these monitor views.

IMON – Target Monitor Summary

22MAR2002 12: 14: 22 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----					
COMMAND ==>			SCROLL ==> CSR		
CURR WIN ==> 1		ALT WIN ==>			
W1 =IMON===== (ALL=====*)=====) 22MAR2002=09: 00: 01====MVI MS====D====2					
CMD Target	Actv	Number in Warn		Avg % Warning	Maximum
---	Mntrs	0. 10. 20		0. 50. ... 100	% Warning
IMSxxx	3 0			40. 5 *****	40. 5
IMSxxx	3 0			11. 4 **	11. 4

Figure 72. IMON View

The IMON view summarizes the number of monitors started for each target, shows how many of those monitors are in a warning condition, and shows the warning value. Hyperlinking from an element in the

- Target column or Actv Mntrs column displays the ISERV view
- Number in Warn column displays the IMWARN view

You can access this view by typing its name on the command line, or by selecting the Monitors in Exception option from the EZIMS menu or the Monitors in Warning option from the EZIFAST menu.

The other IMON views are

- IMONC – Monitors by Target, Cluster
- IMONR – Monitors by Target, Realtime
- IMONS – Monitors by Target, Session

For more information, you can position the cursor on any field in this view, and then press your help key.

ISERV – Active Monitors

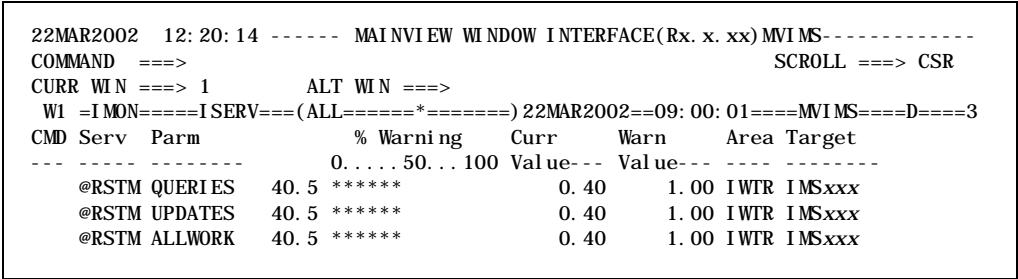


Figure 73. ISERV View

The ISERV view lists the individual monitors by name for each target. Selecting a monitor lets you view a plot of data collected by that monitor.

You can access this view by hyperlinking from Target or Actv Mntrs in the IMON view.

The other ISERV views are

- ISERVC – Monitors Overview, Cluster
- ISERVVR – Monitors Overview, Realtime
- ISERVVS – Monitors Overview, Session

For more information, you can position the cursor on any field in this view, and then press your help key.

IMAREAZ – Target by Area Monitor Summary

22MAR2002 12: 14: 22 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1					ALT WIN ==>				
W2 =IMAREAZ===== (ALL=====*) 22MAR2002==12: 36: 27====MVI MS====D====3									
CMD			Number	Number		Average	Maximum	Number	
---	Target	Area	Monitors	in Warn	0 10	Warning	Warning	Active	
	IMSxxx	IWTRN	3	0				3	
	IMSxxx	IWKLD	5	1 *				5	
	IMSxxx	QUEUE	4	0				4	

Figure 74. IMAREAZ View

The IMAREAZ view summarizes the number of monitors by target area and shows their status. You can hyperlink to the ISERV view from an element in the Area or Number Monitors column to see what the monitors are for the selected target and area. Number in Warn hyperlinks to the IMWARN view for the selected target and area.

You can access this view by typing its name on the command line.

For more information, you can position the cursor on any field in this view, and then press your help key.

IMWARN – Monitors in Warning

22MAR2002 12: 27: 45 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1					ALT WIN ==>				
W1 =IMWARN=====IMSxxx==*					=====22MAR2002==09: 00: 01====MVI MS====D====3				
CMD	Serv	Parm	% Warning		Curr	Warn	Area	Target	
---	---	---	0 50 . . 100		Value---	Value---	-----		
	@RSTM	QUERIES	111.4	*****	1.11	1.00	IWTR	IMSxxx	
	@RSTM	UPDATES	131.4	*****	1.31	1.00	IWTR	IMSxxx	
	@RSTM	ALLWORK	108.4	*****	1.08	1.00	IWTR	IMSxxx	

Figure 75. IMWARN View

The IMWARN view displays only those monitors in a warning condition. It shows how many monitors are in warning and the defined threshold for each target. Selecting a monitor lets you view a plot of data collected by that monitor.

You can access this view by hyperlinking from a Number in Warn element in the IMON view.

For more information, you can position the cursor on any field in this view, and then press your help key.

MAINVIEW for DBCTL Monitors

When you select a monitor from ISERV or IMWARN, a view showing a plot of the data collected by that monitor is displayed, as shown in Figure 76.

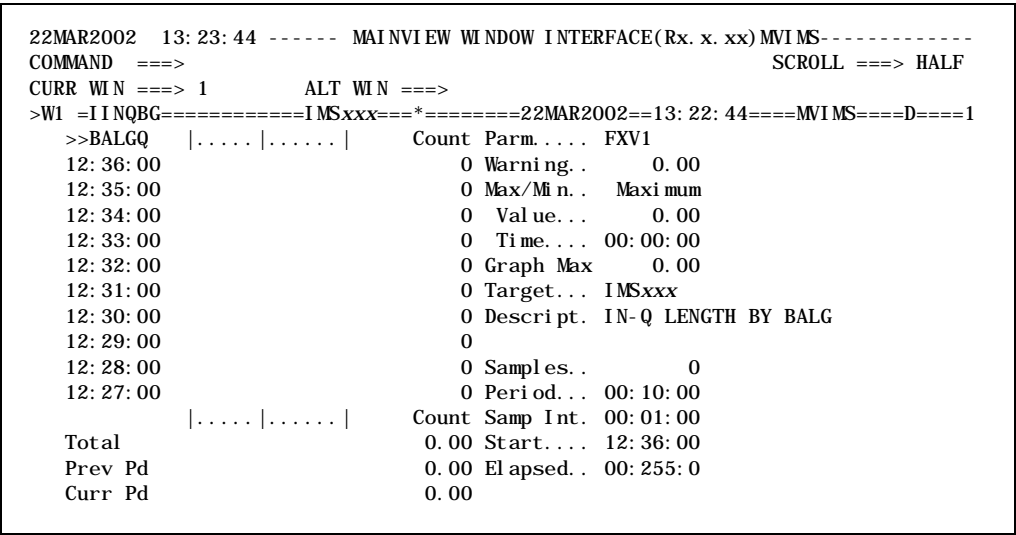


Figure 76. IINQBG View

Each plot provided by a monitor has a hyperlink to a corresponding MVIMS service that you can use for detail analysis of your target’s performance. The hyperlink is indicated by >> in the upper left portion of the view. In the preceding example, it is >>BALGQ. This is a hyperlink to the IMS analyzer BALGQ online service. When you make this hyperlink, you have access to all the online services provided by the IMS analyzer and monitor components of MVDBC.

The following sections list the monitor plot views for the IMS workload and resource monitor services described in the *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*. The descriptions are in tabular form and categorized by IMS area. Each table shows the plot view and its corresponding monitor and describes the performance data provided.

IMS Workload Monitors

This section describes the views and monitors that provide performance plot displays about IMS:

- Fast Path activity
- Global region calls
- Elapsed timing

Fast Path Activity

Fast Path Activity monitors provide performance data about IMS Fast Path resource usage.

Table 12. IMS Workload Monitors for Fast Path Activity

View	Monitor	Description
I#CIC	#CIC	Reports the number of workload Fast Path database control interval contentions (CIC) during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of CICs for the total workload or a single workload type.
I#OBAW	#OBAW	Reports the number of overflow buffer (OBA) latch waits for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of OBA waits by Fast Path transactions or a single workload type.
I@OBA	@OBA	Reports the average overflow buffer usage by Fast Path transactions for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the average overflow buffer usage for the total workload or a single workload type.

Global Region Calls

Global Region Calls monitors provide performance data about all region calls issued during IMS application program processing, including DL/I calls issued by DBCTL regions.

Table 13. IMS Workload Monitors for Global Region Calls

View	Monitor	Description
I\$CBMP	\$CBMP	Reports the number of calls issued by BMP and JBP regions during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.
I\$CDBT	\$CDBT	Reports the number of DL/I calls issued by DBCTL threads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.
I\$CTOT	\$CTOT	Reports the number of calls issued by all region types during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.

Elapsed Timing

Elapsed Timing monitors provide performance data about transaction elapsed, input, and response time.

Table 14. IMS Workload Monitors for Elapsed Timing

View	Monitor	Description
I@ELAP	@ELAP	Reports the average elapsed time of DBCTL threads. Depending on the parameters specified with the monitor, the reported value is the average transaction elapsed time for all workloads or for all workloads of a single type.

IMS Resource Monitors

This section describes the views and monitors that provide performance plot displays about IMS:

- Regions/threads
- Database activity
- Internals
- Interaction with OS/390
- IRLM

IMS Regions/Threads

IMS Regions/Threads monitors provide performance data about DB2 access by programs executing in the IMS regions and threads.

Table 15. IMS Resource Monitors for IMS Regions/Threads

View	Monitor	Description
ID2CON	D2CON	Reports the number of IMS regions/threads connected to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of IMS regions/threads connected to DB2 subsystems or the number connected to a specific DB2 subsystem.
ID2SON	D2SON	Reports the number of IMS regions/threads that issued at least one SQL call and are signed on to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of regions/threads signed on to DB2 or the threads signed on to a specific DB2 subsystem.
ID2THD	D2THD	Reports the number of IMS regions/threads with active threads to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of active regions/threads with DB2 threads or the regions/threads with active threads to a specific DB2 subsystem.

IMS Database

IMS Database monitors provide performance data about DL/I buffer pool activity.

Table 16. IMS Resource Monitors for Database Activity

View	Monitor	Description
IDBIO	DBIO	Reports the number of database I/O by subpool for the OSAM pool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the database I/O for the total OSAM pool or for one subpool.
IDBHIT	DBHIT	Reports the hit ratio for the OSAM buffer pool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the hit ratio for the entire OSAM buffer pool or for one subpool.
IDBSTL	DBSTL	Reports database buffer steal writes for the OSAM pool or by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the database buffer steal writes for the total OSAM pool or for one subpool.
IHPACC	HPACC	Reports Hiperspace access for all VSAM buffer spools or by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of successful Hiperspace reads and writes or by subpool.
IHPHIT	HPHIT	Depending on the parameters specified with the monitor, reports the hit ratio for all VSAM buffer spools or by subpool during the sampling period.
IHPSTL	HPSTL	Reports Hiperspace buffer steals by VSAM subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of unsuccessful reads from all VSAM Hiperspace buffer pools or a single subpool.
ISBUSE	SBUSE	Reports sequential buffering storage by thread during the sampling period. Depending on the parameters specified with the monitor, the reported value is kilobytes of virtual storage used by all threads, a group of threads, or a single thread.
IVDBIO	VDBIO	Reports VSAM database I/O by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of I/Os for the total VSAM pool or one subpool.
IVDBWR	VDBWR	Reports VSAM writes by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of VSAM-initiated writes for the total VSAM pool or one subpool.
IVHIT	VHIT	Reports the VSAM hit ratio by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the hit ratio for the total VSAM pool or one subpool.

IMS Internals

IMS Internals monitors provide performance data about IMS internal activity for program isolation, pools, logging, latching, and pool allocation.

Table 17. IMS Internals Resource Monitors

View	Monitor	Description
IDBWP	DBWP	Reports the percentage of the database work area pool in use during the sampling period.
IDMBP	DMBP	Reports the percentage of the DMB pool in use during the sampling interval.
IDSAP	DSAP	Reports the percentage of the Dynamic Save Area pool in use during the sampling period.
IEPCB	EPCB	Reports the percentage of the extended PCB (EPCB) pool in use during the sampling period. If Fast Path is not installed in IMS, the IEPCB plot is always zero.
ILAWT	LAWT	Reports the average latch wait time in microseconds within the sampling period or since the last IMS checkpoint if a checkpoint occurs within the interval. Depending on the parameters specified with the monitor, the reported value is the average wait time for all latch types or a specific latch type.
IOBUFW	OBUFW	Reports the number of times that the IMS logical logger had to wait for a buffer to be written to the OLDS during the sampling period.
IOCHKW	OCHKW	Reports the number of check write requests to the IMS logical logger during the sampling period.
IPIENQ	PIENQ	Reports the number of program isolation (PI) enqueues held by threads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of PI enqueues held by all threads or the number held by one thread or group of threads.
IPIPL	PIPL	Reports the percentage of the program isolation (PI) pool in use during the sampling period. PI pool percentage usage is calculated as the ratio of allocated bytes to the total number of bytes that can be assigned to the pool.
IPOOLA	POOLA	Reports the amount of allocated pool storage in bytes during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of allocated bytes of CSA storage, ECSA storage, or non-CBT pool storage.
IPOOLN	POOLN	Reports the difference in bytes between the total expansion and total compression of blocks allocated to non-CBT fixed storage pools.

Table 17. IMS Internals Resource Monitors (continued)

View	Monitor	Description
IPOOLT	POOLT	Reports the number of times that non-CBT storage pool blocks expanded and compressed during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total block expansions and compressions for all pools or the number for a specific non-CBT fixed storage pool.
IPSBP	PSBP	Reports the percentage of the PSB pool in use during the sampling interval. If the IMS option is ILS0=S, DLISAS PSB pool usage is monitored. If the LSO option is not S, total PSB pool usage is monitored.
IPSBW	PSBW	Reports the percentage of the PSB work area pool in use during the sampling period.
IWADIO	WADIO	Reports the number of EXCPs to a WADS data set during the sampling interval. If dual WADS logging is in effect, the actual number of EXCPs is twice the reported number.
IWKAP	WKAP	Reports the percentage of the general work area pool in use during the sampling period.

IMS Interaction with OS/390

IMS Interaction with OS/390 monitors provide performance data about OS/390 resources used by IMS interaction with OS/390.

Table 18. IMS Resource Monitors for OS/390

View	Monitor	Description
ICSAUT	CSAUT	Reports the percentage of CSA storage in use during the sampling period.
IDLIO	DLIO	Reports the number of successful EXCPs for DL/I data sets allocated to the DLISAS region during the sampling period by ddname. Depending on the parameters specified with the monitor, the reported value is the total EXCPs for all data sets allocated to the IMS DLISAS region, a group of data sets, or a single data set.
IDPAGE	DPAGE	Reports the number of demand page-ins by IMS region/thread during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total demand page-ins for the system or demand page-ins for one IMS region/thread.
IECSAU	ECSAU	Reports the percentage of extended CSA storage in use during the sampling period.
ISYSIO	SYSIO	Reports the number of successful EXCPs for data sets allocated to the IMS control region by ddname. Depending on the parameters specified with the monitor, the reported value is the total EXCPs for all data sets allocated to the IMS control region or the EXCPs for one data set or group of data sets allocated to IMS.

IRLM

IRLM monitors provide performance data about IRLM activity.

Table 19. IMS Resource Monitors for IRLM

View	Monitor	Description
ILDLCK	LDLCK	Reports the number of IRLM deadlocks that occurred during the sampling period.
ILHELD	LHELD	Reports the number of IRLM locks held by an IMS region/thread during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of IRLM locks held by the target IMS or by a specific thread/thread.
ILKREQ	LKREQ	Reports the number of IRLM lock requests that occurred during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of lock requests for the entire IRLM system or the subset from the target IMS.
ILSUSP	LSUSP	Reports the number of IRLM suspensions that occurred during the sampling period.
ILWNUM	LWNUM	Reports the number of suspended IRLM requests that occurred during the sampling period. Depending on the parameters specified with the monitor, the reported value is all suspended requests from the current target IMS, all suspended requests from all targets, or all requests suspended longer than a specified number of seconds from all targets or the current target.
IPTBLK	PTBLK	Reports the number of IRLM lock requests (IRLM 1.5 only) that resulted in a PTB process during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of lock requests for the entire IRLM system or the subset from the target IMS.
IVSEND	VSEND	Reports the number of VTAM sends issued by the IRLM system (IRLM 1.5 only).

Chapter 8. Creating IMS Workload Definitions

This chapter describes how to create and maintain MAINVIEW for DBCTL (MVDBC) workload definitions, which you can use to define performance objectives for your mission critical applications.

Elements of a Workload Definition

A dialog box is used to create or modify IMS workload definitions. You fill in fields in the dialog box with values that describe each workload. The elements of a workload definition are summarized in the following sections and are described in more detail on page 113.

Workload and Composite Names

A workload name and composite name are assigned to each workload. All workloads that share the same composite name are grouped into “applications.” If your site has MAINVIEW VistaPoint installed, you can use a shared composite name to combine the performance of workloads running in IMS, CICS, DB2, and OS/390 into a common application so that you can view the performance of workloads sharing common tasks.

Service-Level Objectives

A service-level objective is defined for each workload. The objective specifies the acceptable performance for a workload. The objective is met if a specified percentage of a workload’s transactions completes within a specified elapsed time.

Monitoring Time Range

Start and end time fields are used to specify a monitoring time period for each workload.

Target ID and System ID

If you want to limit a workload to specific IMS or OS/390 systems, you can include an IMS target ID, an OS/390 system ID, or both.

Workload Resource Fields

Workloads can be qualified by transaction ID, class, program name, PSB name, region job name, region ID, LTERM name, IMS user ID, and transaction type.

Planning IMS Workload Definitions

Before you create workload definitions, you should

- establish conventions for the workloads
- define the workload service-level objectives for each workload
- identify a critical monitoring period for each workload

Establishing Workload Conventions

IMS workload definitions are saved in BBPARM member BBFTWK00. To minimize maintenance time, the BBPARM data set with the BBFTWK00 member should be shared by all MVDBC product address spaces. Otherwise, duplicate workload definitions must be created and maintained.

Establishing logical, consistent conventions for workload and composite names is important, especially if all your workload definitions are not stored in a shared BBPARM data set. If you must use multiple BBPARM data sets for workload definitions, maintaining the definitions is much easier if you can quickly identify similar workloads.

Workload Names

The information in MVDBC Plex views can be sorted and filtered by workload name. Consistent workload names make it easier to sort and filter views to find the information that you want to display.

Workload names can be up to eight characters long, and the names should clearly represent the work performed by the target IMS. For example, the workload name IMSPAY could be used for IMS payroll transactions.

Composite Names

Composite names should represent a common function of the workloads that are part of a MAINVIEW VistaPoint application. For example, a workload composite with the name FINANCE indicates that a workload is part of the financial application. Composite names can be up to eight characters long.

Defining Workload Service-Level Objectives

A service-level objective specifies the acceptable performance of a workload. You set a service-level objective based on your assessment of the minimum percentage of transactions that must complete within an elapsed response time for the tasks that occur in a workload.

Workloads that belong to the same composite can have different service-level objectives. MVDBC and MAINVIEW VistaPoint normalize reported values to maintain consistency.

Identifying Critical Workload Monitoring Periods

There are periods of time when transaction performance is critical for a particular application, and there are other times, perhaps during the night, when performance is less critical. You can define a single workload to monitor only during an application's critical time period, or you can define multiple workloads for the application, with different monitoring periods and response time goals.

All workloads that belong to the same composite workload should have identical monitoring periods. If they have different monitoring periods, views that show combined workload performance might display misleading information.

Creating a New Workload Definition

After you establish the appropriate naming conventions, service-level objectives, and monitoring period, you can create a workload definition by completing the following steps:

1. Access the IWKLDDDEF view and change the view status from browse to edit mode.
2. Open the Add IMS Workload Definition dialog box to add a workload.
3. Assign the workload definition settings in the dialog box.
4. Save and install the workload definition.

Accessing the IWKLDDDEF View

The IWKLDDDEF view, shown in Figure 77, is the starting point for defining an IMS workload.

22MAR2002 16: 17: 39 ----- MAINVIEW WINDOW INTERFACE(R4. 0. 01)-----								
COMMAND ==>				SCROLL ==> CSR				
CURR WIN ==> 1			ALT WIN ==>					
>W1 =IWKLDDDEF=====I 7AM31CT=*(00 BROWSE)====MVIMS====D====2								
CMD	Workload	Composite	Target	System	Description	Sta	Resp	%Tr
---	Name----	Name----	-----	-----	-----	---	---	---
	IMSPAY	FINANCE	IMSxxx	*	Accounts payable	Act	0.30	90
	IMSREC	FINANCE	IMSxxx	*	Accounts receivable	Act	0.30	90
	IMSRET	FINANCE	IMSxxx	*	Accounts return	Act	1.00	95
	IMSTEST	TEST0131	IMS*	*	IMS testing	Act	0.30	95

Figure 77. IWKLDDDEF Workload Definition List view, Browse Mode

To access the IWKLDDDEF view, you can

- type IWKLDDDEF on any command line
- type ADMIN on any command line and select the IWKLDDDEF view
- type VIEWS on any command line and select the IWKLDDDEF view

To add a workload definition (or change an existing workload definition), you must switch from browse mode to edit mode by typing **EDIT** on the IWKLDDDEF command line and pressing Enter. An edit lock is set on BBPARM member BBFTWK00, and the IWKLDDDEF view is displayed with edit mode indicated in the view information line, as shown in Figure 78 on page 112.

```

22MAR2002 16:17:39 ----- MAINVIEW WINDOW INTERFACE(R4.0.01) -----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
>W1 =IWKLDDDEF=====I7AM31CT=*===== (00 EDIT )=====MWIMS=====D=====2
CMD Workload Composite Target System Description Sta Resp %Tr
--- Name----- Name-----
IMSPAY FINANCE IMSxxx * Accounts payable Act 0.30 90
IMSREC FINANCE IMSxxx * Accounts receivable Act 0.30 90
IMSRET FINANCE IMSxxx * Accounts return Act 1.00 95
IMSTEST TEST0131 IMS* * IMS testing Act 0.30 95

```

Figure 78. IWKLDDDEF Workload Definition List View, Edit Mode

The primary commands and line commands provided in the IWKLDDDEF view are listed in Table 20 on page 115.

Note: If someone else is editing the BBFTWK00 member when you type the EDIT command, you will get an error message telling you that the member is not available.

Opening the Add IMS Workload Definition Dialog Box

There are two ways you can open the Add IMS Workload Definition dialog box to add a new workload definition. You can use the default workload definition settings or the settings of an existing workload as a basis for the new workload definition.

- Type the **ADD** primary command on the IWKLDDDEF command line to open the dialog box with the default workload definition settings.
- Type the **ADD** line command beside an existing workload to open the dialog box using the selected workload’s settings and then specify a new workload name.

The Add IMS Workload Definition dialog box with default settings is shown in Figure 79.

```

----- ADD IMS WORKLOAD DEFINITION -----
COMMAND ==>

Workload ==> Composite ==>
For Target ==> * For System ==> *
Description ==>

Tran Id ==>
Class ==>
Program ==>
PSB ==>
Region ==>
RegonID ==>
Terminal ==>
User id ==>
TranType ==> (DLI, DB2, FP) PgmType ==> (MPP, MDP, TPI, DBT, NOTDBT)

Response time of ==> 1.0 seconds for ==> 100 % of transactions
Between ==> 00:00 (hh:mm) and ==> 24:00 (hh:mm)
Include Queuing ==> Y (Y, N)

```

Figure 79. Add IMS Workload Definition Dialog Box

Note: The primary commands available in the workload definition dialog box are listed in Table 21 on page 115.

Assigning the New Workload Definition Settings

This section describes the fields used to create a workload definition. For more information about the fields, press your help key to access the online help.

Workload and Composite Names

Enter the selected names for the workload and composite. Workload and composite names can be up to eight characters long, but the first character in each name must be an alpha character.

The composite workload name is used by MAINVIEW VistaPoint to combine workloads into a single application. Related IMS, CICS, DB2, and OS/390 workloads must have the same composite name if you want to monitor their combined transaction performance in a MAINVIEW VistaPoint application.

Workload name and composite name are required fields. If you do not enter a composite name, the workload name is automatically assigned as the composite name when you save the workload definition.

For information about choosing workload and composite names, see page 110.

Target and System IDs

Enter the complete target ID if you want to restrict the workload to a single IMS system, and enter the system ID if you want to restrict the workload to a single OS/390 system.

You can use wildcards (*, ?, and +) to expand a definition to include multiple IMS targets and OS/390 systems.

Target and system ID are required fields. If no ID is specified in a field, the field must contain an asterisk.

Description

Enter a description that defines the purpose of the workload. The description is a required field, and it can be up to 24 characters long.

Monitored IMS Resources

You can use the resource fields to restrict a workload by transaction ID, class, program name, PSB name, region job name, region ID, LTERM name, IMS user ID, transaction type, and program type. The resource fields are optional.

You can use the wildcards *, ?, and + to expand a definition for the transaction ID, class, program, PSB, region job name, and region ID fields.

You can use multiple entries, separated by a comma or a space, for the transaction ID, program, PSB, region job name, terminal, and user ID fields.

Response Time and Percent of Transactions Fields

These two fields define the service-level objective for the workload. In the response time field, enter the response time goal for transactions that occur within the workload target. In the percentage field, enter the minimum percentage of transactions that must complete within the specified response time. The service-level objective is met if the specified minimum percentage of a workload's transactions complete within the specified response time.

These fields are required. If you are creating a workload definition from scratch and enter no values in the fields, the default response time of 1.0 seconds and the default percentage of 100% will be used for the workload definition.

Include Queuing

The queuing field specifies whether a workload's transaction response time will include the time transactions spend in the input queue waiting to be processed.

Saving and Installing a New Workload Definition

After you define a new workload in the Add IMS Workload Definition dialog box, you can add the workload to the current workload list by typing the SAVE command in the dialog box command field.

When you return to the IWKLDDEF view, the new workload is included in the workload list with an inactive status and the view mode is changed from EDIT to EDIT MOD, indicating that changes to the workload list are pending. At that point, you can

- type SAVE in the command field to save the definition in inactive status and keep the IWKLDDEF view open
- type END in the command field to save the definition in inactive status and return to the previous view
- type SAVE in the command field and then type INStall in the line command area beside the new workload (or vice versa) to activate the new workload and save it in the workload list
- type INStall in the line command area beside the new workload to activate it without saving it

The INStall line command immediately updates the local BBI-SS PAS, and monitoring begins for a new workload as soon as its status changes from inactive to active.

You can create a new workload for temporary use by installing it without saving it in the workload list. When you no longer need the workload, you can delete it before you save the workload list.

Commands in the IWKLDDEF View and the IMS Workload Definition Dialog Boxes

Table 20 lists the primary commands and line commands available in the IWKLDDEF view, and Table 21 lists the primary commands available in the dialog boxes for adding and changing workload definitions.

Table 20. Primary and Line Commands on the IWKLDDEF View

Primary Commands	Function
EDIT	Changes the view from browse mode to edit mode, activating the other primary and line commands.
ADD	Opens the Add IMS Workload Definition dialog box with default workload settings.
CANcel	Cancels any changes made to the workload list during an edit session by restoring the workload list to the current version in storage (ends the edit mode and returns the view to browse mode).
SAVE	Saves any changes made to the workload list and maintains the edit mode.
Line Commands	Function
ADD	Opens the Add IMS Workload Definition dialog box with the settings for the selected workload definition. You can specify a new workload name and use the settings of the selected workload as a template for a new workload definition.
CHA	Opens the Change IMS Workload Definition dialog box with the settings for the selected workload definition.
DEL	Removes a workload from the view and changes its status to deleted.
INS	Activates a workload with a modified or inactive status (and changes the workload's status to active).
PARM DELETED(*)	Redisplays deleted workloads in a different color if the workload list was not saved after the deletions were made.
UND	Changes the status of a workload from deleted to the status in effect when the DEL line command was entered against the workload

Table 21. Primary Commands on the Dialog Boxes for Adding and Changing IMS Workload Definitions

Primary Command	Function
END	Saves the workload settings and closes the dialog box.
CANcel	Cancels a new workload or changes made to an existing workload and closes the dialog box.
SAVE	Saves the workload settings.

Maintaining Workload Definitions

This section describes how to update, delete, and recover workload definitions.

Changing a Workload Definition

To change settings for a workload

- access the IWKLDDEF view
- change browse mode to edit mode (by typing EDIT on the command line)
- type CHA in the line command area beside the workload you want to change

The CHA change line command opens the Change IMS Workload Definition dialog box with the current settings for the workload. You can then change any field in the dialog box except the workload name field.

After you change the definition, you can either enter the CANcel command to discard the changes or enter the END command to keep the changes intact. Both commands close the dialog box.

When you change a workload's settings and use the END command to close the Change IMS Workload Definition dialog box, the updates you made are pending. If the workload was in active status, its status is changed to modified (Mod); if it was in inactive status, its status remains inactive. The window information line shows an EDIT MOD status, which means that there are one or more unsaved workload modifications pending.

In the IWKLDDEF view, you can cancel or save changes you made to a workload definition. If you enter the CANcel primary command, all changes made and not saved are discarded and the view mode changes from EDIT MOD mode to BROWSE mode. If you enter the SAVE primary command, all changes are saved, the IWKLDDEF view remains open, and its mode changes from EDIT MOD to EDIT. If you enter the END command, all changes are saved and the previous view is displayed.

You must install a modified workload definition to activate the changes. When you install the modified workload definition, the original workload is deactivated, and transaction monitoring begins immediately with the updated workload definition, if the current time is within the monitoring time period of the workload. If the current time is not within the workload's monitoring time period, transaction monitoring will begin when the start time is reached.

Deleting and Recovering Workload Definitions

To delete a workload definition

- access the IWKLDDEF view
- change browse mode to edit mode (by typing EDIT on the command line)
- type DEL in the line command area beside the workload you want to delete

When you enter the DEL line command, the workload definition disappears from the definition list, and its status is changed to deleted. If you enter the SAVE or END command, the workload is permanently deleted and cannot be retrieved.

If you have deleted a workload with the DEL line command and you have not saved the workload list with the SAVE or END command, you can retrieve the deleted workload by entering PARM DELETED(*) on the command line.

When you enter the PARM DELETED(*) command, the workload reappears in the workload list and is displayed in a different color. To recover the workload, enter the UND undelete line command in its line command area. The undelete command changes the color of the workload line to normal and changes its status from deleted to the status in effect when the DEL line command was entered against the workload.

Part 3. Solving Realtime Problems

This part describes how you can use the IPSM views to analyze and solve realtime problems. For general information about views, see the *Using MAINVIEW* manual.

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Chapter 9. Monitoring Region/Thread Activity

This chapter shows you how to use the region views to monitor the activity of DBCTL threads and BMP and JBP regions running under the target system. The views help you answer the following questions:

- What thread activity is occurring?
- What work is IMS performing for currently processing transactions?
- What is the activity of this transaction?

The region views represent a powerful upgrade over previous REGNS services. They allow you to monitor the activity of groups of threads in one or many different DBCTL systems.

Built in the MAINVIEW window environment, these views also give you powerful usability enhancements. You can filter, sort, and customize to produce views that focus on exactly what you need to see and that display information the way you need to see it.

The following region views and Easy Menu are provided:

View name	Description
DRGNSUMR	Region Activity Summary
DRGNDTLR	Region Activity Detail
DRGNDLIR	Region DL/I Activity
DRGNFPLR	Region Fast Path Activity
DRGNPGMR	Region/Program Activity
DRGNPILR	Region Activity Program Isolation (PI)

Accessing the Region Activity Views

To access the region activity views, you can use the IPSM hyperlinks. These hyperlinks connect directly to the sysplex-enabled region views. You can also display the generic, unfiltered version of each view by simply typing the view name on any command line within IPSM.

To display filtered versions of these views, hyperlink from any of the DBCTL Easy Menus (EZIFAST, EZIMS, EZISSI, EZISSR) or the appropriate fields within their pop-up submenus. (To display an Easy Menu, type its name on any command line within IPSM.)

The easiest way to access the regions views is by hyperlinking from either the Active Threads option or the Waiting Threads option of the DBCTL Easy Menu (EZIMS), shown in Figure 80.

```

22MAR2002 14:14:41 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIMS=====IMSxxx==*=====22MAR2002=14:14:41====MVIMS====D====1
                                DBCTL EASY MENU
                                Timeframe - Interval

                                (Change) Target---> IMSxxx          Status: INACTIVE
                                Activity              Resources
                                +-----+
                                . System              | Place cursor on | . Programs
                                . Threads            | menu item and  | . Databases
                                . Threads Not Idle   | press ENTER   | . Areas
                                . Thread Occupancy   +-----+
                                . Batch Regions
                                . Database Activity   Transaction Analysis    Cross Reference
                                . IMSplex Connection . Delay Factors        . Programs/Databases
                                                . Components of Response . Databases/Programs
                                                . Traces
                                Exceptions
                                . Current Delays
                                . Database Lock Waits Monitors
                                . Waiting Threads     . In Warning          > Utilities
                                . Stopped Programs     . Active              > IMS Fast Menu
                                . Stopped Databases    . Workload Objective  > IMS SSI Menu
                                . Stopped Areas        . Area Summary        > MVIMS Main Menu
                                . Alarms in Exception  . Installed Products
                                                . What's New?
                                                . Return

```

Figure 80. DBCTL Easy Menu (EZIMS)

Region Activity Summary View

A good starting point for monitoring dependent regions is the Region Activity Summary view (DRGNSUMR), shown in Figure 81 and Figure 82. This view provides information about active regions and the transactions that are currently executing. It shows

- Thread or region status
- UOW (unit of work) elapsed time
- CICS task ID, transaction name, and user name
- Total number of locks held by the thread
- Number of DL/I and SQL calls made

Data is collected from your entire IMSplex environment, enabling you to monitor activity of multiple threads across one or more OS/390 systems.

To display an unfiltered version of this view, type DRGNSUMR on any command line within IPSM. To display a filtered view, hyperlink from any of the following Easy Menus: EZIFAST, EZIMS, EZISSI, EZISSIR. (To display one of these Easy Menus, type its name on any command line within IPSM.)

```
22MAR2002 08:16:12 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =DRGNSUMR=====IMSxxx====*=====22MAR2002==08:06:33====MVI MS====D====3
CMD Rgn IMS  Rgn Region  JOB/STC  CICS  Tran      User      PSB      Tot  Tot
--- ID  ID  Typ Status  Name     TASK  Name      Name     Name     DLI  SQL
    4 D18H DBT ACTV-USR CICS4103 00132 DLZZ      CICSTC  STBCUSR      3
    2 D18H DBT IDLE      CICS4103
    3 D18H DBT IDLE      CICS4103
```

Figure 81. Region Activity Summary View (DRGNSUMR)

```
22MAR2002 08:18:48 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
<W1 =DRGNSUMR=====IMSxxx====*=====22MAR2002==08:06:33====MVI MS====D====3
CMD Rgn Tot  Tot  UOW  Rgn  IMS  MVS
--- ID  SQL  Lock Elaps  Idl e  Jobname  Name
    4      1    0.50      IMSxxx  SYSD
    2      0.00  109.4  IMSxxx  SYSD
    3      0.00  109.4  IMSxxx  SYSD
```

Figure 82. Region Activity Summary View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

This high-level, tabular view provides hyperlinks to more detailed region views.

The following hyperlinks are provided in the DRGNSUMR view.

Hyperlink from	To see
Rgn ID	Region Detail view (DRGNDTLR), which provides detailed thread information
Tot DLI	Region Activity DL/I view (IRGNDLIR), which provides DL/I call detail information
Tot Lock	IRLM or PI Lock Detail view, which provides detailed lock information

To display an unfiltered version of this view, enter IRGNSUMR on any command line within IPSM. To display a filtered view, hyperlink from any of the following Easy Menus: EZIFAST, EZIMS, EZISSI, EZISSIR. (To display one of these Easy Menus, enter its name on any command line within IPSM.)

Region Activity Detail View

The Region Activity Detail view (DRGNDTLR), shown in Figure 83, displays detailed thread or region information. It shows you what a transaction is doing. You can see

- Which databases a transaction accesses and how often
- How many times a transaction accesses a database and with what type of DL/I call
- Number of locks held by a BMP or JBP between checkpoints
- The transaction's resource usage

To display this view, select a region from the Rgn ID field in the Region Activity Summary view (DRGNSUMR).

22MAR2002 08:19:17 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVIS-----									
COMMAND ==>					SCROLL ==> PAGE				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =DRGNDTLR=====IMSxxx==*======22MAR2002==08:06:33====MVIS====D====1									
Region ID..	4	Rgn Status..	ACTV-USR	UOW Elap...					0.5
Job Name...	CICS4103	Tran Name...	DLZZ	Idle Time...					0.0
IMS ID....	D18H	PSB.....	STBCUSR	AGN.....					
MVS Name...	SYSD	User.....	CICSTC	DB2 AUTHID..				CICSTC	
DB Shr Grp.		CICS Task...	00132	DB2 Stat....					
Region Type	DBT			Seq BF Usg..					0
----- DL/I Call--- ACTIVITY -----									
Total Calls	3	Current/Last	DLI Call	Current Lock Detail (PI)					
				PI Activity.					
INIT.....	0	SET0.....	0	APSB.....					0
INQY.....	0	SETS.....	0	DPSB.....					0
AUTH.....	0	SETU.....	0	DB DEQ.....					0
CHKPT.....	0	ROLB.....	0						
XRST.....	0	ROLS.....	0						
----- FAST PATH--- ACTIVITY -----									
NBA.....	0	OBA.....	0	Used.....					0
Lock Detail									
----- DB2----- ACTIVITY -----									
DB2 Name...		Control.....	0	SQL Total...					0
Plan Name...		Dynami c.....	0	Inserts.....					0
SEL/FETCH..	0	DDL.....	0	Deletes.....					0
Opens.....	0	Other.....	0	Updates.....					0
----- PSB -----									
PSB Size...	888	PSB WA.....	2288						
----- SYSTEM----- ACTIVITY -----									
Exec In...	DBT	TCB CPU....	26	Elapsed Days					
ASID.....	83	SRB CPU....	4	and Hours...				01:49:27	
Priority...	254	CPU SRV....	12180	Domain.....					0
Swap.....	NON-SWAP	IO SRV....	540	Perf Group..					0
		MSO SRV....	59280	Perf Period.					0
----- PAGING----- ACTIVITY -----									
Work In...	0	Int Pg-ins..	44	VIO Pg-ins..					0
Work out...	0	Int Pg-outs.	0	VIO Pg-outs.					0
Frames.....	0	Int Reclai ms	0	VIO Reclai ms					0
Slots.....	932	Swap Count..	1	VIO Slots...					0
Com Pg-ins.	1	Com Reclai ms	0	Int Stolen..					2893

Figure 83. Region Activity Detail View (DRGNDTLR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The Region Activity Detail view also provides hyperlinks to enable you to directly access additional information.

The following hyperlinks are provided in the DRGNDTLR view.

Hyperlink from	To see
Region Type	MAINVIEW for CICS TASKXPND views (if region type is DBCTL)
Total Calls	Region Activity DL/I view (DRGNDLIR)
Current/Last DLI Call	MAINVIEW for DBCTL DLIST views
Current Lock Detail	IRLM or PI Lock Detail views
DB2 Name	MAINVIEW for DB2 DUSER views (if appropriate)

Region Activity DL/I View

The Region Activity DL/I view (DRGNDLIR), shown in Figure 84 and Figure 85, shows the amount of DL/I call activity incurred by the transaction currently executing.

This view shows the total number of DL/I database calls issued by a transaction against a database. Separate totals are given for GET UNIQUE, GET NEXT, GET HOLD UNIQUE, GET HOLD NEXT, REPLACE, INSERT, and DELETE calls.

The view also shows the total number of key reads and writes and non-key reads and writes. Sysplex information is provided: OS/390 name, IMS ID, region ID.

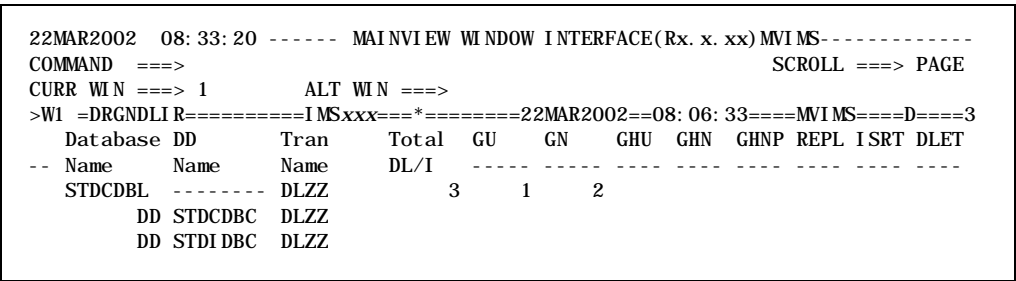


Figure 84. Region Activity DL/I View (DRGNDLIR)

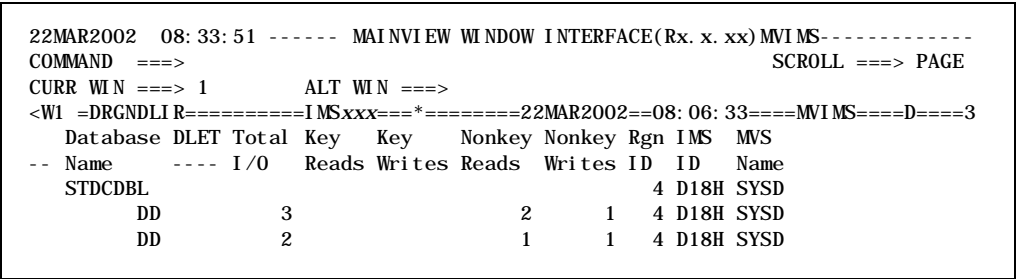


Figure 85. Region Activity DL/I View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

To display an unfiltered version of the view, type DRGNDLIR on any command line within IPSM and press Enter. To see information for a selected thread only, hyperlink to the view from the DB Calls field in the Region Activity Detail view (DRGNDTLR).

Region Activity Fast Path View

The Region Activity Fast Path view (DRGNFPLR), shown in Figure 86, shows Fast Path call activity for the transaction currently processing in the selected thread.

This view displays the first ten Fast Path database enqueues held by the selected region. Each record shows the Fast Path database area being accessed by the transaction, the enqueue type, and the RBA for the IMS resource being locked.

22MAR2002 08: 47: 46 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----									
COMMAND ==>					SCROLL ==> PAGE				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =DRGNFPLR=====IMSxxx==*=====22MAR2002==08: 47: 46====MVIMS====D====1									
Regi on ID. .	4	Rgn Status..	ACTV- USR	UOW El ap. . .					0. 5
Job Name. . .	CICS4103	Tran Name. . .	DLZZ	Idl e Time. . .					0. 0
IMS ID.	D18H	PSB.	STBCUSR	AGN.					
MVS Name. . .	SYSD	User.	CI CSTC	DB2 AUTHID. .				CI CSTC	
DB Shr Grp.		CICS Task. . .	00132	DB2 Stat. . .					
Regi on Type	DBT			Seq BF Usg. .					0
	Database		Area Name					RBA	
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

Figure 86. Region Activity Fast Path View (DRGNFPLR)

This view provides a hyperlink from the Rgn Type field to the MAINVIEW for CICS TASKXPND views (if the region type is DBCTL).

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

Region/Program View

The Region/Program view (DRGNPGMR), shown in Figure 87 and Figure 88, allows you to monitor the activity of multiple threads across one or more OS/390 systems. Data can be collected from your entire IMSplex environment.

This view provides information about

- Active regions
- The transactions currently executing in each region
- Associated application programs

To display an unfiltered version of this view, type DRGNPGMR on any command line within IPSM. To display a filtered view, hyperlink from any of the following Easy Menus: EZIFAST, EZIMS, EZISSI, EZISSIR. (To display one of these Easy Menus, type its name on any command line within IPSM.)

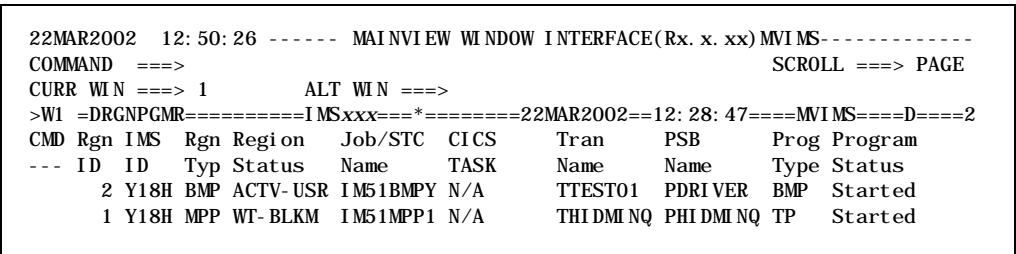


Figure 87. Region/Program View (DRGNPGMR)

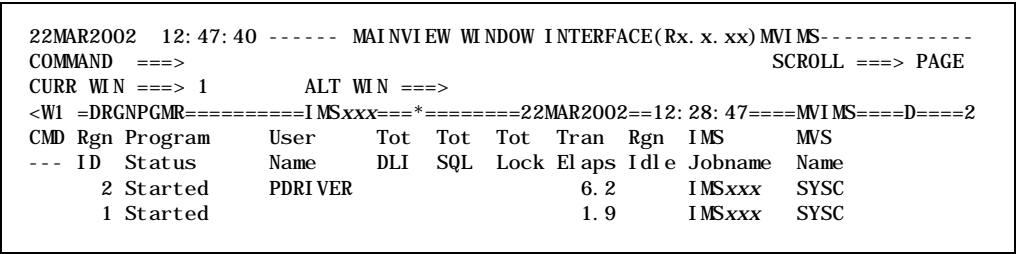


Figure 88. Region/Program View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

This high-level, tabular view provides hyperlinks to more detailed region views.

The following hyperlinks are provided in the DRGNPGMR view.

Hyperlink from	To see
Rgn ID	Region Detail view (DRGNDTLR), which provides detailed thread information
Tot DLI	IPSM Region Activity DL/I view (DRGNDLIR), which provides DL/I call detail information
Tot Lock	IRLM or PI Lock Detail view, which provides detailed lock information

Region Activity Program Isolation (PI) View

The Region Activity Program Isolation (PI) view (DRGNPILR), shown in Figure 89, is a detail view showing program isolation (PI) statistics for a selected DBCTL unit of work (UOW) or BMP or JBP region.

The program isolation statistics in this view show you the amount and type of segment-locking activity that an application is performing.

To display an unfiltered version of this view, type DRGNPILR on any command line within IPSM. To display a filtered view, hyperlink from any of the following Easy Menus: EZIFAST, EZIMS, EZISSI, EZISSIR. (To display one of these Easy Menus, type its name on any command line within IPSM.)

22MAR2002 12: 37: 40 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==>				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =DRGNPILR=====IMSxxx==*=====22MAR2002==12: 37: 40====MVI MS====D====1									
Region ID. .	2	Status.	IDLE	UOW El ap. . .					0. 0
Job Name. . .	IM51MPP1	Trancode. . .		Idl e Time. . .					23. 2
IMS ID. . . .	X18H	PSB.		AGN.					
MVS Name. . .	SYSC	User.		DB2 AUTHID. .					
DB Shr Grp.	NONE	SCROLL		DB2 Stat. . .					
Region Type	MPP			Seq BF Usg. .					0
----- PI LOCK----- ACTI VI TY -----									
SHR/UPD- ---		EXCLUSIVE- --		Q COMMAND- --					
ENQ.	0	ENQ.	0	ENQ.					0
DEQ.	0	DEQ.	0	DEQ.					0
CURQ.	0	CURQ.	0	CURQ.					0
WAIT.	0	WAIT.	0	WAIT.					0
TEST-----									
ENQ.	0								
DEQ.	0								
CURQ.	0								
WAIT.	0								

Figure 89. Region Activity Program Isolation (PI) View (DRGNPILR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

Chapter 10. Recognizing and Resolving N-Way Data Sharing Resource Contention

This chapter discusses the IRLM lock views, which make the task of recognizing and resolving N-way data sharing resource contention much easier. These views make it easy to answer the following questions:

- Is there a problem?
- How severe or widespread is it?
- Which resources are most contended for?
- How do I resolve the problem?

With views like the Resource Lock Summary view, you can quickly see which database resources are most contended for. The degree of contention is quantified in fields showing the number of threads waiting, longest wait times, and average wait times.

All views can be filtered on your most important criteria. Built in the MAINVIEW window environment, the IRLM lock views give you powerful usability enhancements. You can filter, sort, and customize to produce views that focus on exactly what you need to see and to display information the way you need to see it.

The following IRLM lock views are provided:

View name	Description
ILKRGSUM	Region Lock Summary
ILKRGLST	Region Lock List
ILKRGWT	Region Lock Wait List
ILKRSSUM	Resource Lock Summary
ILKRSLST	Resource Lock List
ILKR SWT	Resource Lock Wait List

Accessing the IRLM Lock Views

You can display any of the IRLM lock views described in this chapter by typing the view name on the command line, or by typing VIEWS and then selecting the view from the list displayed.

You can also hyperlink to the IRLM lock views from the DBCTL Easy Menu (EZIMS) or Fast Menu (EZIFAST).

Analyzing Lock Problems

A good way to begin analyzing lock problems is by looking at the Wait Time field in the ILKRGWT view. This field shows you the extent of any problems that may exist (for example, how long the waiters for a resource have been waiting).

To investigate a long wait time, you can hyperlink from the Wait Time field. This takes you to the Resource Lock List view (ILKRSLST). The Resource Lock List view shows you who holds the resource that is being waited for and who else may be waiting for it.

The cause of a problem may be that the holder of the resource is also waiting for another resource. To see what the holder is waiting for, hyperlink from the holder's Hold Time field. That will take you to a list of all locks held or waited for by that particular holder.

If you want to investigate further, hyperlink from the holder's Wait Time field. You now see who holds the resource that the holder is waiting for. If desired, this process can be repeated until you find the original cause of the problem.

Region Lock Summary View

The Region Lock Summary view (ILKRGSUM), shown in Figure 90 and Figure 91, displays a list of all threads that are waiting for or holding database locks. Threads with the longest wait times are shown first. This view shows

- Every thread that
 - holds a resource lock
 - is waiting for a resource lock
- How long a thread has been
 - holding a lock
 - waiting for a lock
- How many resource locks the thread holds
- How long the longest currently held lock has been held

You can use this view to see all threads currently using IRLM resources. To display this high-level view, type ILKRGSUM on any command line within IPSM.

```
22MAR2002 10: 51: 53 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =ILKRGSUM=====IMSxxx====*=====22MAR2002==10: 51: 53====MVI MS====D====3
CMD Rgn IMS  Rgn      Rgn Rgn      MVS      PSB      Wait Num Longest Highest
--- Id  Id  Jobname  Typ Status  Name      Name      Time Held Held      State
   5 X19H IM61BMP1 BMP WT-IRLM SYSD      PTEST01   5.7    1    5.7 W-UPD
   4 X19H IM61BMP2 BMP ACTV-USR SYSD      PTEST02           1   51.1 H-UPD
SYS X19H DLI  -TCB SYS              SYSD              3  184.2 H-SHR
```

Figure 90. Region Lock Summary View (ILKRGSUM)

```
22MAR2002 10: 52: 31 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
<W1 =ILKRGSUM=====IMSxxx====*=====22MAR2002==10: 51: 53====MVI MS====D====3
CMD Rgn XCF      IRLM  Tran
--- Id  Name      Id  Name
   5 NONE      IR21
   4 NONE      IR21
SYS NONE      IR21
```

Figure 91. Region Lock Summary View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRGSUM view.

Hyperlink from	To see
Rgn Jobname	Detailed threads information
Num Held	All resources held by a thread
Wait Time	Which resource is waited for
Wait Time, then Wait Time in the ILKRSWT view	All holders of a resource

Region Lock List View

The Region Lock List view (ILKRGLST), shown in Figure 92 and Figure 93, shows all locks held or waited for by all regions. Locks held or waited for are shown by region. The view shows

- Every resource lock
 - held by any thread
 - waited for by any thread
- How long the thread has been
 - waiting for the lock
 - holding the lock

To display the Region Lock List view, you can type the view name (ILKRGLST) on any command line within IPSM. If you hyperlink to this view from another view, the information is filtered according to certain criteria.

```
22MAR2002 10: 53: 24 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =ILKRGLST=====IMSxxx====*=====22MAR2002==10: 53: 24====MVI MS====D====6
CMD Rgn IMS  Rgn      Rgn Rgn      Database                               Cur Wait Hold
--- Id  Id   Jobname  Typ Status   Name       DCB/Area  RBA/Type F G Sta Time Time
    5 X19H IM61BMP1  BMP WT-IRLM  CUSTHDAM 1          00000D38 P G UPD  7. 2
    4 X19H IM61BMP2  BMP ACTV-USR  CUSTHDAM 1          00000D38 P G UPD      52. 6
    5 X19H IM61BMP1  BMP WT-IRLM  CUSTHDAM 1          000006A6 P G UPD      7. 2
SYS X19H DLI  -TCB SYS                                COMMAND  B G RO      185.
SYS X19H DLI  -TCB SYS                                COMMAND  F G RO      185.
SYS X19H DLI  -TCB SYS                                CUSTHDAM 1          DATASET  B G RO      92. 6
```

Figure 92. Region Lock List View (ILKRGLST)

```
22MAR2002 10: 54: 08 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
<W1 =ILKRGLST=====IMSxxx====*=====22MAR2002==10: 53: 24====MVI MS====D====6
CMD Rgn Hold PSB      MVS      XCF      IMS      IRLM Tran
--- Id  Time Name      Name      Name      Jobname  Id   Name
    5      PTEST01 SYSD      NONE      IMSxxx  IR21
    4 52. 6 PTEST02 SYSD      NONE      IMSxxx  IR21
    5  7. 2 PTEST01 SYSD      NONE      IMSxxx  IR21
SYS 185.      SYSD      NONE      IMSxxx  IR21
SYS 185.      SYSD      NONE      IMSxxx  IR21
SYS 92. 6      SYSD      NONE      IMSxxx  IR21
```

Figure 93. Region Lock List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRGLST view.

Hyperlink from	To see
Wait Time	Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource
Hold Time	A filtered version of the Resource Lock List view (ILKRSLST), where you can see just the waiters of a given resource
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see what processing the region has done up until now

Region Lock Wait List View

The Region Lock Wait List view (ILKRGWT), shown in Figure 94 and Figure 95, displays a list of all threads waiting for database resource locks. Threads with the longest waits are shown at the top. The view shows

- Every resource lock waited for by any thread
- How long any thread has been waiting for any lock

This view is a good starting point for analyzing lock problems. It highlights problems and allows you to see their extent. By hyperlinking, you can find their cause.

To display the Region Lock Wait List view, you can type the view name (ILKRGWT) on any command line within IPSM, or you can hyperlink from the Number Waiters field of the Resource Lock Summary view (ILKRSSUM).

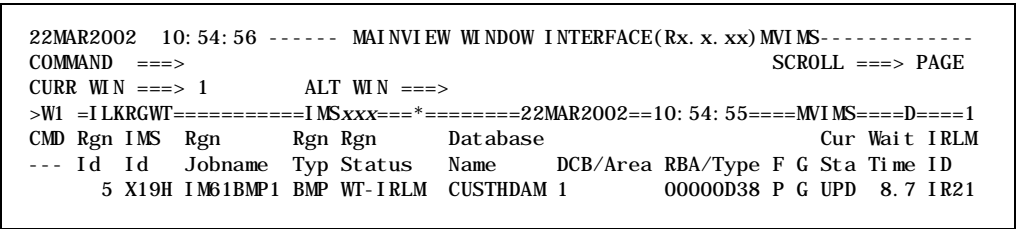


Figure 94. Region Lock Wait List View (ILKRGWT)

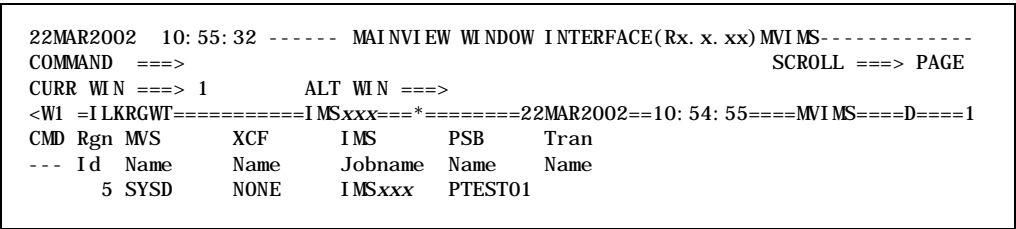


Figure 95. Region Lock Wait List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRGWT view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see what processing the thread has done up until now
Wait Time	Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource

Resource Lock Summary View

The Resource Lock Summary view (ILKRSSUM), shown in Figure 96 and Figure 97, shows you which database resources are most contended for. Degree of contention for a given resource is measured by number of threads waiting (Number Waiters field), longest wait times (Oldest Waiter field), and average wait times (Avg Wait field).

With this view, you can see

- Every resource held by any participant in an N-way data sharing group
- Every resource waited for by any participant
- How many waiters there are
- How many holders there are

You can also see

- The longest wait time
- The average wait time
- The longest hold time

To display the Resource Lock Summary view, type the view name (ILKRSSUM) on any command line within IPSM.

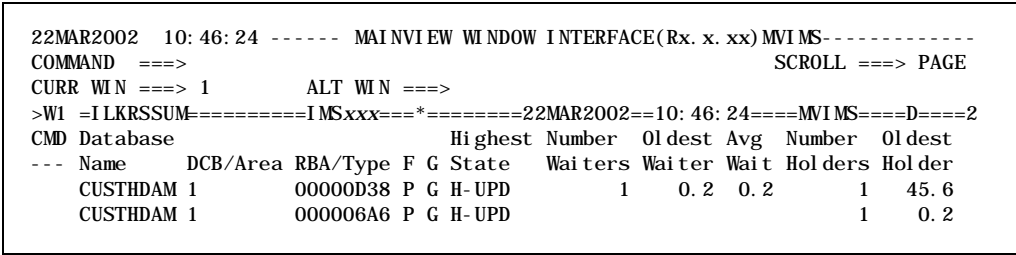


Figure 96. Resource Lock Summary View (ILKRSSUM)

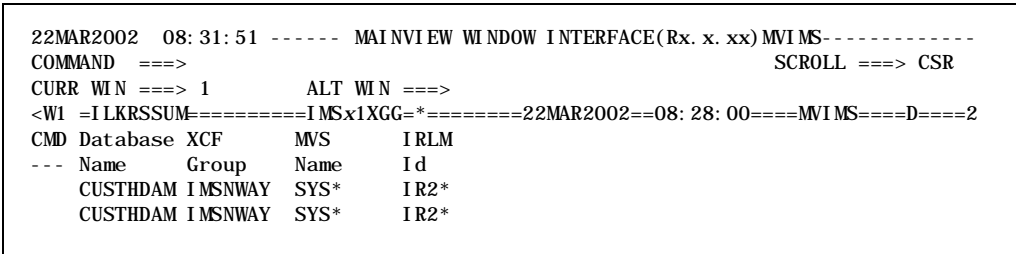


Figure 97. Resource Lock Summary View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRSSUM view.

Hyperlink from	To see
Number Waiter	Which threads are waiting for a resource
Number Holders	Which threads are holding a resource

Resource Lock List View

The Resource Lock List view (ILKRSLST), shown in Figure 98 and Figure 99, shows all waiters for and holders of any database resource. With this view, you can see

- Every resource lock held by any participant in an N-way data sharing group
- Every resource lock waited for by any participant
- How long a thread has been waiting for a lock
- How long a thread has been holding a lock

If you display this view without specifying any parameters (by typing ILKRSLST on any command line within IPSM), you see a list of all resources contended for and their respective holders and waiters.

If you are interested in a specific resource, you can hyperlink on the Wait Time field to see waiters and holders for the given resource only. (Hyperlinking *to* this view also filters it to show waiters and holders for a selected resource only.)

```
22MAR2002 10:48:23 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ILKRSLST=====IMSxxx=====22MAR2002==10:48:23====MVIMS====D====6
CMD Database                               Cur Wait Hold Rgn IMS  Rgn      Rgn Rgn
--- Name      DCB/Area  RBA/Type F G Sta Time Time Id  Id  Jobname  Typ Status
CUSTHDAM 1      00000D38 P G UPD  2.2          5 X19H IM61BMP1 BMP WT-IRLM
CUSTHDAM 1      000006A6 P G UPD          2.2  5 X19H IM61BMP1 BMP WT-IRLM
CUSTHDAM 1      00000D38 P G UPD          47.6  4 X19H IM61BMP2 BMP ACTV-USR
CUSTHDAM 1      DATASET  B G R0          87.6 SYS X19H DLI -TCB SYS
                COMMAND  B G R0          180. SYS X19H DLI -TCB SYS
                COMMAND  F G R0          180. SYS X19H DLI -TCB SYS
```

Figure 98. Resource Lock List View (ILKRSLST)

```
22MAR2002 10:48:59 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =ILKRSLST=====IMSxxx=====22MAR2002==10:48:23====MVIMS====D====6
CMD Database Rgn  MVS      PSB      XCF      IMS      IRLM Tran
--- Name      Status Name      Name      Name      Jobname  Id  Name
CUSTHDAM WT-IRLM SYSD      PTEST01 NONE      IMSxxx    IR21
CUSTHDAM WT-IRLM SYSD      PTEST01 NONE      IMSxxx    IR21
CUSTHDAM ACTV-USR SYSD      PTEST02 NONE      IMSxxx    IR21
CUSTHDAM          SYSD      NONE      IMSxxx    IR21
                SYSD      NONE      IMSxxx    IR21
                SYSD      NONE      IMSxxx    IR21
```

Figure 99. Resource Lock List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRSLST view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see detailed information about the thread
Wait Time	Another version of the Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource
Hold Time	Region Lock List view (ILKRGLST), where you can see all the resources held or waited for by the thread. This information is especially helpful for analyzing lock problems where a region holding requested resources is itself waiting for another resource.

To display the unfiltered Resource Lock List view, enter the view name (ILKRSLST) on any command line within IPSM and press Enter. To display a filtered Resource Lock List view, hyperlink from the Wait Time field in the Region Wait List view (ILKRGWT).

Resource Lock Wait List View

The Resource Lock Wait List view (ILKRSWT), shown in Figure 100 and Figure 101, provides a complete list of resources against which threads are waiting to get locks. With this view, you can see

- Every resource lock waited for by any participant in an N-way data sharing group
- How long any thread has been waiting

If you display this view without specifying any parameters (by typing ILKRSWT on any command line within IPSM), you see all resources that have threads waiting for them.

If you want to see waiters and holders for a specific resource only, hyperlink from the Wait Time field within this view. (Hyperlinking to this view from the Wait Time field of the ILKRGWT view also shows waiters and holders for a selected resource only.)

```

22MAR2002 10: 50: 27 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ILKRSWT=====IMSxxx==*=====22MAR2002==10: 50: 27====MVI MS====D====1
CMD Database
--- Name      DCB/Area  RBA/Type F G Sta Time Id Id  Jobname  Typ Status  Name
      CUSTHDAM 1      00000D38 P G UPD  4.3  5 X19H IM61BMP1 BMP WT-IRLM SYSD

```

Figure 100. Resource Lock Wait List View (ILKRSWT)

```

22MAR2002 10: 51: 05 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =ILKRSWT=====IMSxxx==*=====22MAR2002==10: 50: 27====MVI MS====D====1
CMD Database MVS      PSB      XCF      IRLM Tran
--- Name      Name      Name      Name      Id      Name
      CUSTHDAM SYSD      PTEST01 NONE      IR21

```

Figure 101. Resource Lock Wait List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRSWT view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see what processing the thread has done up until now
Wait Time	Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource.

Part 4. Managing IMS Operations

This part describes how you can use the IPSM views to manage IMS operations. For general information about views, see the *Using MAINVIEW* manual.

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Chapter 11. Managing Fast Path DEDB Areas

This chapter describes the Fast Path DEDB area views. You can use the views to manage and control your IMS DEDB (data entry database) areas. These interactive views allow you to issue commands and see their results immediately.

With the Fast Path Area views, you can immediately access pertinent information about each of your DEDB areas so that you can

- Understand the impact of changing the status of a particular area
- Manage the programs and transactions that are sensitive to that DEDB area

The Fast Path Area views show you

- DEDB area structure and status
- Amount of space available
- EQE information
- Extensive CI statistics, broken down by category

After accessing the information you need, you can use line commands within the same view to control the Fast Path areas (if you have a license for MAINVIEW AutoOPERATOR for IMS).

The following Fast Path area views are provided:

View name	Description
IFPSUMR	Fast Path DEDB Area Overview
IFPDTLR	Fast Path DEDB Area Detail
IFPORGR	Fast Path DEDB Area Statistics
IFPSTAR	Fast Path DEDB Area Status
IFPMR	Fast Path Area Object Easy Menu

Accessing the Fast Path DEDB Area Views

You can display Fast Path area views by typing the view name on the command line or by typing `VIEWS` and then selecting the view from a list of views.

You can also hyperlink to the Fast Path area views from the following menus:

- IMS Easy Menu (EZIMS)
- IMS Fast Menu (EZIFAST)
- IMS Resource Menu (EZIMSRS)
- IMS Sysplex Easy Menu (EZISSI)

Fast Path DEDB Area Overview View

This section describes the Fast Path DEDB Area Overview view (IFPSUMR), which is shown in Figures 102 and 103. You can use this view to manage and control your IMS DEDB areas.

For each area, the IFPSUMR view shows the area name, current status, authorization state, access level, number of EQEs (error queue elements) used, DBD name, IMS ID, MVS name, IMS name, local and global DMB numbers, whether the area is defined as nonrecoverable, area type, and organization type.

You can use line commands in the IFPSUMR view to control your Fast Path DEDB areas (if you have a license for MAINVIEW AutoOPERATOR for IMS). To display the Fast Path DEDB Area Overview view, you can enter the view name (IFPSUMR) on any command line within IPSM.

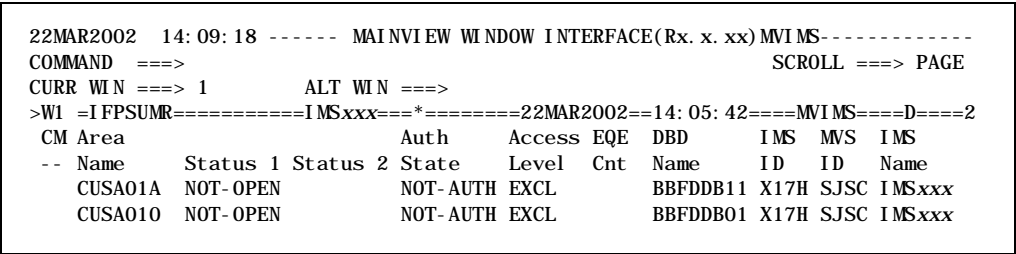


Figure 102. Fast Path DEDB Area Overview View (IFPSUMR)

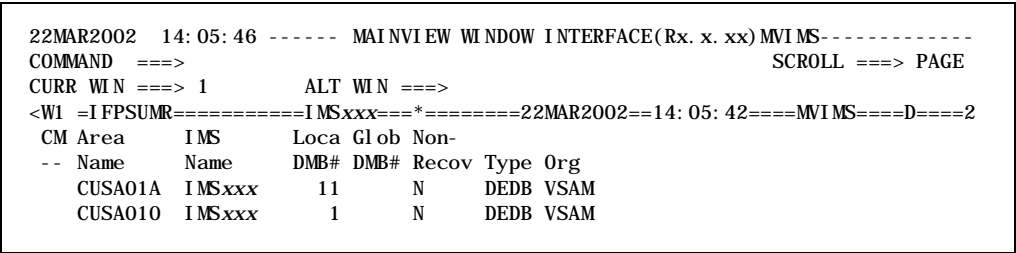


Figure 103. Fast Path DEDB Area Overview View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IFPSUMR view.

Hyperlink from	To see
Area Name	IFPMR menu, where you can access additional information about the Fast Path DEDB area

Fast Path DEDB Area Detail View

This section describes the Fast Path DEDB Area Detail view (IFPDTLR), which is shown in Figure 104. With this view, you can analyze a specific IMS DEDB area.

The IFPDTLR view shows the area name, current status, authorization state, access level, local and global DMB numbers, number of EQEs (error queue elements) used, whether the area is defined as nonrecoverable, DBD name, area type, organization type, IMS ID, and IMS name. The view also shows

- Size of VSAM control intervals (CIs)
- Number of root segment CIs
- Number of independent overflow (IOVF) CIs defined
- Number of independent overflow (IOVF) CIs available
- Percent of independent overflow (IOVF) CIs available
- Number of sequential dependent space (SDEP) CIs defined
- Number of sequential dependent space (SDEP) CIs available
- Percent of sequential dependent space (SDEP) CIs available
- Number of root segment CIs per unit of work
- Number of overflow CIs per unit of work

To display the Fast Path DEDB Area Detail view, you can type the view name (IFPDTLR) on any command line within IPSM. You can also hyperlink to the view from the Area Object Easy Menu (IFPMR) or the Database Object Easy Menu (IDBMR).

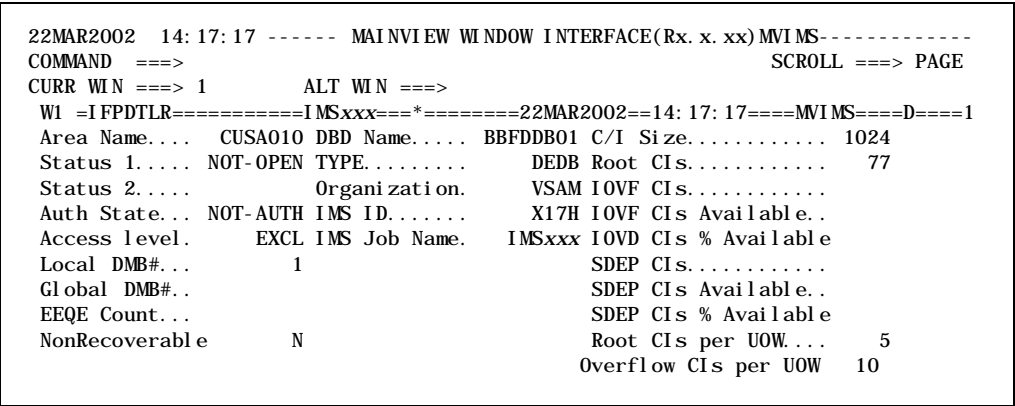


Figure 104. Fast Path DEDB Area Detail View (IFPDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

Fast Path DEDB Area Statistics View

This section describes the Fast Path DEDB Area Statistics view (IFPORGR), which is shown in Figures 105 and 106. You can access this view when you want to examine structure and space availability information for multiple DEDB areas.

For each area, the IFPORGR view shows the area name, the DBD name, IMS ID, MVS ID, IMS name, current status, area type, organization type, authorization state, and access level. The view also shows

- Size of VSAM control intervals (CIs)
- Number of root segment CIs
- Number of independent overflow (IOVF) CIs defined
- Number of independent overflow (IOVF) CIs available
- Percent of independent overflow (IOVF) CIs available
- Number of sequential dependent space (SDEP) CIs defined
- Number of sequential dependent space (SDEP) CIs available
- Percent of sequential dependent space (SDEP) CIs available
- Number of root segment CIs per unit of work
- Number of overflow CIs per unit of work

You can use line commands in the IFPORGR view to control your Fast Path DEDB areas (if you have a license for MAINVIEW AutoOPERATOR for IMS). To display the Fast Path DEDB Area Statistics view, you can type the view name (IFPORGR) on any command line within IPSM. You can also hyperlink to this view from the Area Object Easy Menu (IFPMR).

```
22MAR2002 14:13:51 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IFPORGR=====IMSxxx==*=====22MAR2002==14:13:51====MVI MS====D====2
CM Area C/I Root +--- IOVF --+ +--- SDEP --+ R-CI 0-CI DBD IMS MVS
-- Name Size C/Is C/Is Aval %Av C/Is Aval %Av /UOW /UOW Name ID ID
CUSA01A 1024 77 5 10 BBFDDDB11 X17H SJSC
CUSA010 1024 77 5 10 BBFDDDB01 X17H SJSC
```

Figure 105. Fast Path DEDB Area Statistics View (IFPORGR)

```
22MAR2002 14:14:08 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IFPORGR=====IMSxxx==*=====22MAR2002==14:13:51====MVI MS====D====2
CM Area MVS IMS
-- Name ID Name Status 1 Status 2 Type Org State Access
CUSA01A SJSC IMSxxx NOT-OPEN DEDB VSAM NOT-AUTH EXCL
CUSA010 SJSC IMSxxx NOT-OPEN DEDB VSAM NOT-AUTH EXCL
```

Figure 106. Fast Path DEDB Area Statistics View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IFPORGR view.

Hyperlink from	To see
Area Name	IFPMR menu, where you can access additional information about the selected area

Fast Path DEDB Area Status View

This section describes the Fast Path DEDB Area Status view (IFPSTAR), shown in Figure 107. You can access this view when you want to examine or modify the status of Fast Path DEDB areas.

The Fast Path DEDB Area Status view summarizes status information for all DEDB areas in the IMS by Level 1 and Level 2 status. Level 1 status indicates whether an area is open, not open, stopped, or locked. Level 2 status indicates error or failure conditions for the area. The view provides a count of all areas with the same status, and it shows IMS ID and IMS name.

You can use line commands in the IFPSTAR view to control Fast Path DEDB areas (if you have a license for MAINVIEW AutoOPERATOR for IMS). To display the Fast Path DEDB Area Status view, you can type the view name (IFPSTAR) on any command line within IPSM. You can also hyperlink to the view from the Area Object Easy Menu (IFPMR).

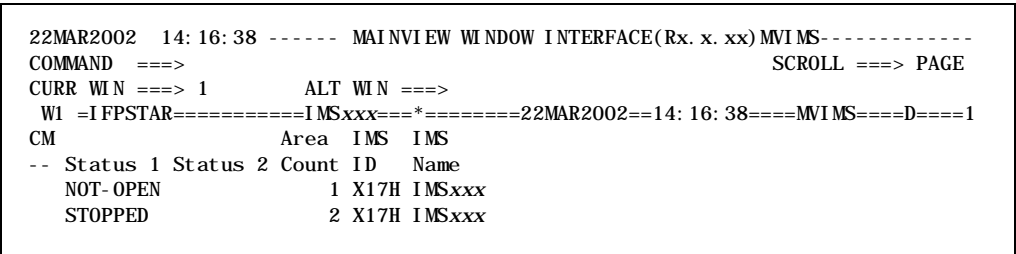


Figure 107. Fast Path DEDB Area Status View (IFPSTAR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IFPSTAR view.

Hyperlink from	To see
Area Count	IFPSUMR view, which provides additional information about the selected areas

Fast Path DEDB Area Object Easy Menu

This section describes the Fast Path DEDB Area Object Easy Menu (IFPMR), which is shown in Figure 108. This menu gives you quick access to Fast Path DEDB Area information.

You can use this menu to

- Hyperlink to Fast Path Area Detail, Organization, or Status views
- Hyperlink to the IMS Easy Menu (EZIMS) or IMS Fast Menu (EZIFAST)
- Filter Fast Path Area information on
 - EQE count
 - read or write error
 - locked or stopped status

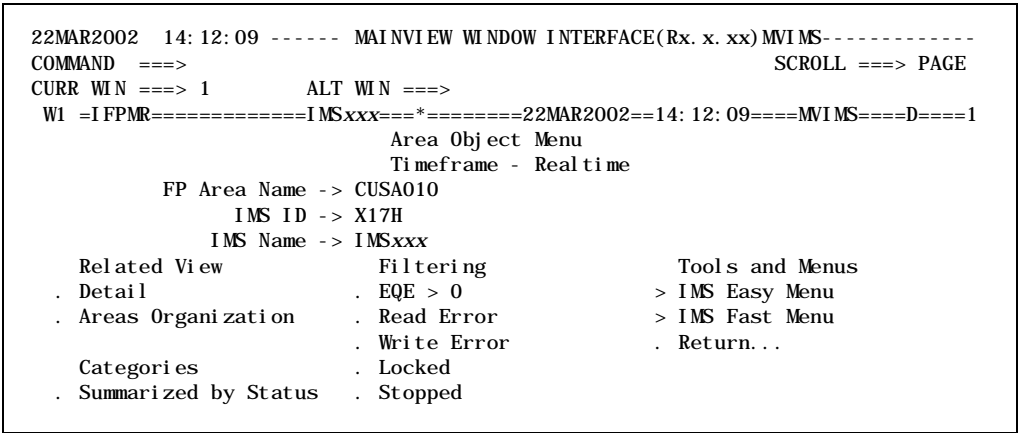


Figure 108. Fast Path DEDB Area Object Easy Menu (IFPMR)

To use the Fast Path DEDB Area Object Easy Menu, position the cursor on any option that interests you and press Enter.

You can hyperlink to the Fast Path DEDB Area Object Easy Menu from the Area Name field on the IFPSUMR and IFPORGR views. You can also display the menu by typing IFPMR on any command line.

Chapter 12. Managing Databases

This chapter describes the database views, which you can use to manage and control IMS databases by issuing commands and seeing immediate results.

With the views, you can

- See detailed database information
- Summarize information by database access type or status
- Filter on EEQE (extended error queue element) count, read or write error, locked or stopped status
- Hyperlink to associated area and program information

Statistics include access and organization type, authorization state, access level, local and global DMB numbers, current status, and whether the database is defined as nonrecoverable.

With the database views, you can immediately access pertinent information about each of your IMS databases, which can help you better manage the databases and the programs and transactions that are sensitive to them.

The following database views and Easy Menu are provided:

View name	Description
IDBSUMR	Database Overview
IDBDTLR	Database Detail
IDBTYPR	Database Type Summary
IDBSTAR	Database Status Summary
IDBMR	Database Object Easy Menu

Accessing the Database Views

You can display the database views by entering the view name on the command line or by entering VIEWS and then selecting the view from a list of views.

You can also hyperlink to the database views from the following menus:

- IMS Easy Menu (EZIMS)
- IMS Fast Menu (EZIFAST)
- IMS Resource Menu (EZIMSRS)
- IMS Sysplex Easy Menu (EZISSI)

Database Overview View

This section describes the Database Overview view (IDBSUMR), which is shown in Figures 109 and 110. You can use this view to manage and control your IMS databases.

This tabular view displays a scrollable list of all databases in the IMS systems and provides database-level statistics for each of the databases.

The view shows the DBD name or the High Availability Large Database (HALDB) partition name, IMS ID, database and organization type, current status, authorization state, access level, local and global DMB numbers, EEQE count, whether the database is defined as nonrecoverable, and IMS name.

After accessing the information you need, you can use line commands to control the databases in the view (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display the Database Overview view, you can enter IDBSUMR on any command line within IPSM.

```
22MAR2002 13:48:26 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =IDBSUMR=====IMSxxx====*=====22MAR2002==11:54:32====MVI MS====D===94
CM DBD/PART IMS Database                      Auth Access Loca Gl ob EEQE
-- Name      ID   Type      Org Status 1 Status 2 State   Level DMB# DMB# Cnt
BE2PCUST H81H                                NOT-OPEN NOT-AUTH EXCL 108
BE3ORDER H81H                                NOT-OPEN NOT-AUTH EXCL 109
BE3ORDRX H81H                                NOT-OPEN NOT-AUTH EXCL 110
BE3PARTS H81H                                NOT-OPEN NOT-AUTH EXCL 111
BE3PSID1 H81H                                NOT-OPEN NOT-AUTH EXCL 112
CSQ4CA H81H                                NOT-OPEN NOT-AUTH EXCL 115
CUSTHDAM H81H HDAM      OSAM OPENED      UPDT-SHR UPDT 116 11
CUSTHIDM H81H                                NOT-OPEN NOT-AUTH UPDT 117
CUSTHISM H81H                                NOT-OPEN NOT-AUTH UPDT 118
CUSTINDX H81H                                NOT-OPEN NOT-AUTH UPDT 119
CUSTVSAM H81H                                NOT-OPEN NOT-AUTH UPDT 120
DBFSAMD1 H81H MSDB      OPENED      NOT-AUTH EXCL 121
DBFSAMD2 H81H MSDB      OPENED      NOT-AUTH EXCL 122
DBFSAMD3 H81H DEDB      VSAM NOT-OPEN      N/A      UPDT 123
DBFSAMD4 H81H                                NOT-OPEN NOT-AUTH UPDT 124
DB1 H81H                                NOT-OPEN NOT-AUTH UPDT 125
DB1H H81H PHIDAM        STOPPED NOT-OPEN N/A      UPDT 126
DB1HSX H81H PSINDEX     STOPPED NOT-OPEN N/A      UPDT 127
```

Figure 109. Database Overview View (IDBSUMR)

```

22MAR2002 13: 52: 51 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1                            ALT WIN ==>
<W1 =IDBSUMR=====IMSxxx==*=====22MAR2002==11: 54: 32====MVI MS====D===94
CM DBD/PART EEQE Non IMS
-- Name      Cnt    Recov Name
BE2PCUST     N/A    IMSxxx
BE3ORDER     N/A    IMSxxx
BE3ORDRX     N/A    IMSxxx
BE3PARTS     N/A    IMSxxx
BE3PSID1     N/A    IMSxxx
CSQ4CA       N/A    IMSxxx
CUSTHDAM     N      IMSxxx
CUSTHIDM     N/A    IMSxxx
CUSTHISM     N/A    IMSxxx
CUSTINDX     N/A    IMSxxx
CUSTVSAM     N/A    IMSxxx
DBFSAMD1     N/A    IMSxxx
DBFSAMD2     N/A    IMSxxx
DBFSAMD3     N/A    IMSxxx
DBFSAMD4     N/A    IMSxxx
DB1          N/A    IMSxxx
DB1H         N/A    IMSxxx
DB1HSX       N/A    IMSxxx

```

Figure 110. Database Overview View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBSUMR view.

Hyperlink from	To see
DBD/PART Name	IDBMR menu, where you can access more information about the database you selected

Database Detail View

The Database Detail view (IDBDTLR), shown in Figure 111, provides detailed statistics about a selected IMS database.

This view shows database name, IMS ID and name, access and organization type, local and global DMB numbers, current status, authorization state, access level, whether the database is defined as nonrecoverable, and the EEQE count against the database.

To display the Database Detail view, you can enter IDBDTLR on any command line within IPSM. You can also hyperlink to this view from the Database Object Easy Menu (IDBMR).

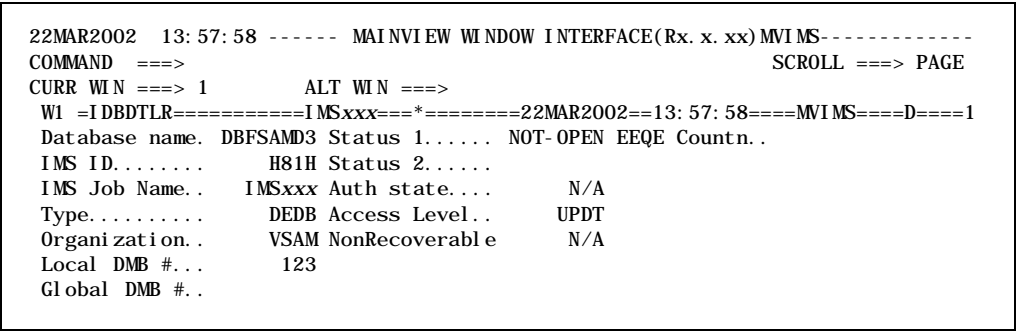


Figure 111. Database Detail View (IDBDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

Database Type Summary View

This section describes the Database Type Summary view (IDBTYPR), which is shown in Figure 112. You can use this view to examine database access type information in a tabular format. You can use line commands in the view to control your IMS databases (if you have a license for MAINVIEW AutoOPERATOR for IMS).

This view summarizes databases by type of DBD access method and by IMS ID. It provides a count of the DBDs in each access method category. (When there is no value in the Type field, the associated database has been generated but does not have a member in ACBLIB, and it has a Status 2 of NOT-INIT.)

The view provides two levels of information about current status. The value in the Status 1 field indicates whether a database is open, not open, stopped, or locked. The value in the Status 2 field indicates error or failure conditions for the database. The view also shows organization type and associated IMS.

To display the Database Type Summary view, you can enter IDBTYPR on the command line.

22MAR2002 11: 59: 44 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----							
COMMAND ==>				SCROLL ==> CSR			
CURR WIN ==> 1				ALT WIN ==>			
W1 =IDBTYPR=====IMSxxx==*=====22MAR2002==11: 59: 44====MVI MS====D====6							
CM				IMS		IMS	
-- Type	Org	Count	Status 1	Status 2	Name	ID	
		61	STOPPED	NOT- INIT	IMSxxx	H81H	
DEDB	VSAM	2	NOT- OPEN		IMSxxx	H81H	
MSDB		3	OPENED		IMSxxx	H81H	
PART	OSAM	2	OPENED		IMSxxx	H81H	
PHDAM		5	STOPPED	NOT- OPEN	IMSxxx	H81H	
PHI DAM	OSAM	1	OPENED		IMSxxx	H81H	

Figure 112. Database Type Summary View (IDBTYPR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBTYPR view.

Hyperlink from	To see
Count	IDBSUMR view, which shows all the databases that have the type of access method you selected

Database Status Summary View

This section describes the Database Status Summary view (IDBSTAR), which is shown in Figure 113. You can use this view to examine database status information in a tabular format. You can use line commands in the view to control your IMS databases (if you have a license for MAINVIEW AutoOPERATOR for IMS).

The Database Status Summary view summarizes all databases in the IMS systems by status and by IMS ID. It also provides a count of the databases in each status category. Summarization is by Status 1. (Status 1 indicates whether a database is open, not open, stopped, or locked. Status 2 indicates error or failure conditions for the database.)

To display the Database Status Summary view, you can enter IDBSTAR on the command line.

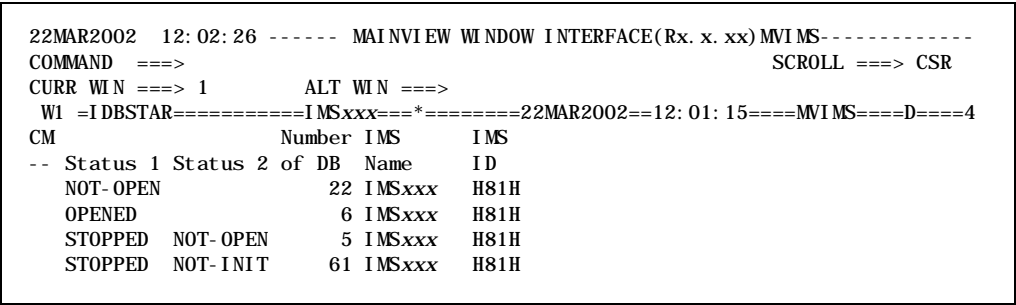


Figure 113. Database Status Summary View (IDBSTAR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBSTAR view.

Hyperlink from	To see
Number of DB	IDBSUMR view, which shows all the databases with the status you selected

Database Object Easy Menu

This section describes the Database Object Easy Menu (IDBMR), which is shown in Figure 114. This menu gives you quick access to information about a specific database in your IMS.

You can use this menu to

- Hyperlink to Database Detail, Status, or Type Summary views
- Hyperlink to related area, program, or transaction information
- Hyperlink to the IMS Easy Menu (EZIMS) or IMS Fast Menu (EZIFAST)
- Filter database information on
 - EEQE count (extended error queue element)
 - read or write error
 - locked or stopped status

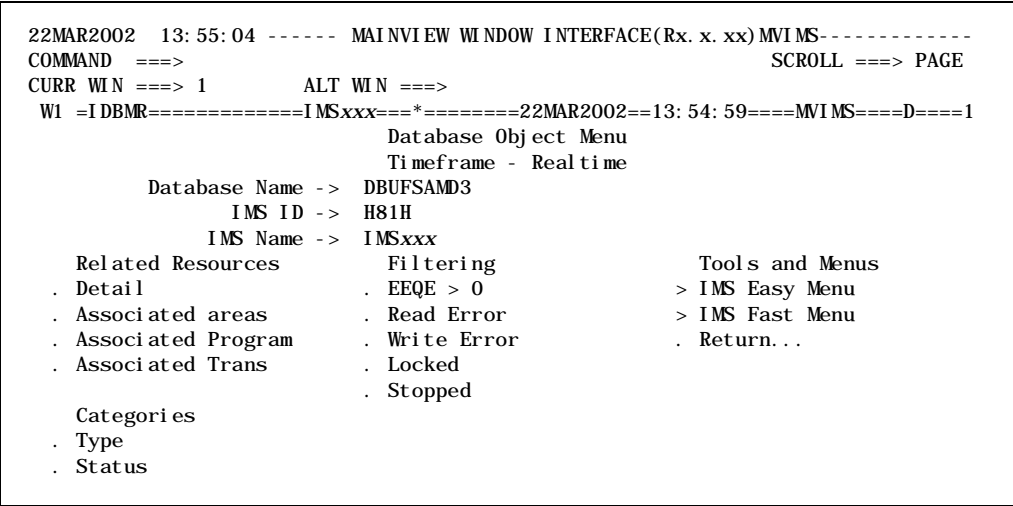


Figure 114. Database Object Easy Menu (IDBMR)

To use the Database Object Easy Menu, position the cursor on any option that interests you and press Enter.

To display the Database Object Easy Menu, you can enter IDBMR on any command line within IPSM. You can hyperlink to the IDBMR menu from the DBD/PART Name field on the IDBSUMR view.

Chapter 13. Managing Application Programs

This chapter describes the program views, which you can use to find out

- How well application programs are running
- What the impact will be if you change the status of a particular program

With the program views, you can find out the transactions and databases associated with any program—and you can see their status, which helps you understand what the impact will be if you change the status of a particular program.

The program views show you

- All programs (with counts) of any given type or status
- Transactions affected if you change a program's status
- Regions currently running a program

After identifying the information you need, you can use line commands within the same view to control the programs defined for your IMS (if you have a license for MAINVIEW AutoOPERATOR for IMS).

The following program views and Easy Menu are provided:

View name	Description
IPGMR	Program Easy Menu
IPGSUMR	Program Overview
IPGTYPR	Program Count by Type
IPGSTAR	Program Count by Type and Status

Accessing the Program Views

You can display any of the program views described in this chapter by entering the view name on the command line, or by entering `VIEWS` and then selecting the view from the list displayed.

You can also hyperlink to the program views from the Resources section of the DBCTL Easy Menu (EZIMS).

Program Object Easy Menu

The Program Object Easy Menu (IPGMR), shown in Figure 115, provides a good starting point for examining how application programs are running.

By hyperlinking from the menu, you can go straight to the statistics you need to better manage the programs running in your IMS sysplex environment. The Program Object Easy Menu allows you to select options that take you to views showing

- Program information filtered by type or by started/not started status
- Program summarization by type or by type and status
- Transactions affected if you change a program’s status
- Regions currently running a specific program

You can also hyperlink to the IMS Easy and Fast Menus (EZIMS and EZIFAST).

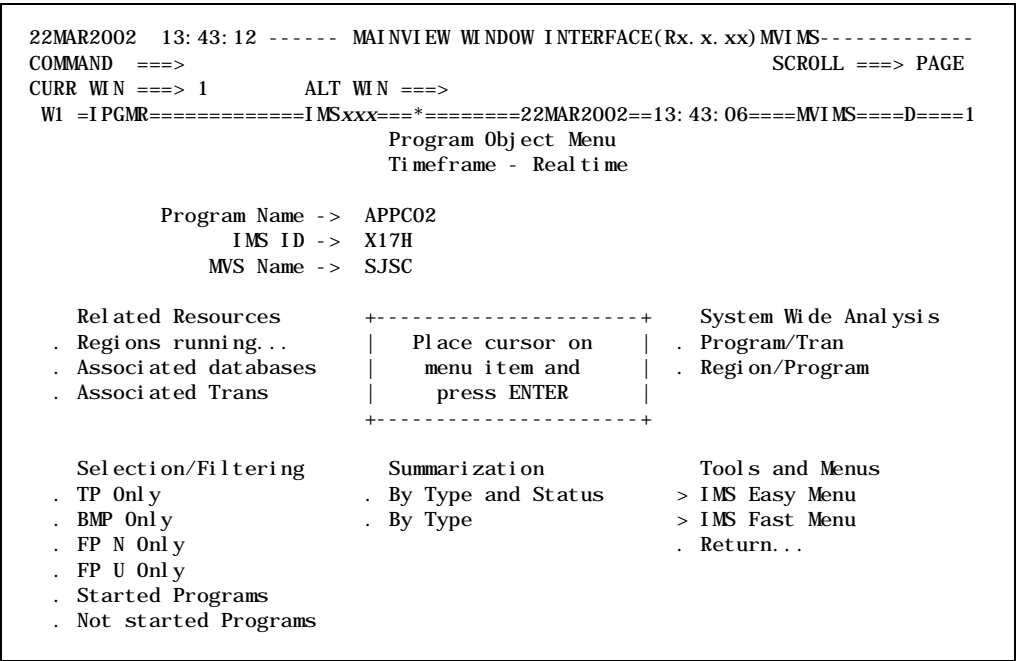


Figure 115. Program Object Easy Menu

To use the Program Object Easy Menu, position the cursor on any option that interests you and press Enter.

To display the Program Object Easy Menu, you can hyperlink to it from the program name field in the IPGSUMR view. You can also enter IPGMR on the command line, or enter VIEWS and then select IPGMR from the list displayed.

Program Overview View

The Program Overview view (IPGSUMR), shown in Figure 116, lists all IMS application programs by name. It identifies their type, status, and scheduling type. It also provides the related IMS ID and OS/390 name.

You can use line commands in the IPGSUMR view to control the programs defined for your IMS (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display this high-level view, you can enter the view name (IPGSUMR) on any command line within IPSM. You can also hyperlink to this view from the Programs option on the IMS Easy Menu (EZIMS).

22MAR2002 13: 41: 21 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
W1 =IPGSUMR=====IMSxxx==*=====22MAR2002==13: 40: 50====MVI MS====D==200

CMD	Program	Type	Status	IMS	MVS	Sched
---	Name			Id	Name	Type
	APPC02	TP	Started	X17H	SYSC	Serial
	APPC03	TP	Started	X17H	SYSC	Serial
	APPC04	TP	Started	X17H	SYSC	Serial
	APPC05	TP	Started	X17H	SYSC	Serial
	APPC06	TP	Started	X17H	SYSC	Serial
	BBFPGM01	FP N	Started	X17H	SYSC	Serial
	BBFPGM02	FP N	Started	X17H	SYSC	Serial

Figure 116. Program Overview View (IPGSUMR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

Program Count by Type View

The Program Count by Type view (IPGTYPR), shown in Figure 117, provides a quick way to see all programs of a specific type.

This view summarizes all IMS application programs by type. The view also identifies the count of all programs in each type. Additional information includes the associated IMS name, IMS ID, and OS/390 name.

IPGTYPR, along with the other program views, allows you to use line commands to control the programs defined for your IMS (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display this summarized view, type the view name (IPGTYPR) on any command line within IPSM.

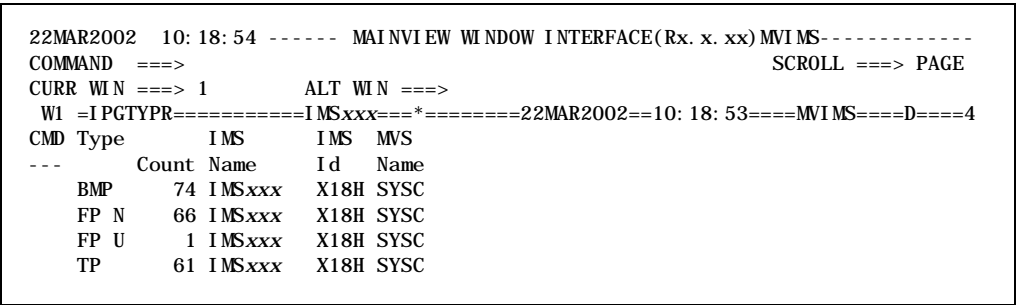


Figure 117. Program Count by Type View (IPGTYPR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlink is provided in the IPGTYPR view.

Hyperlink from	To see
Count	IPGSUMR view, filtered on all programs of the same type. The view shows information, including status and scheduling type, for all application programs of a given type.

Program Count by Type and Status View

The Program Count by Type and Status view (IPGSTAR), shown in Figure 118, provides a quick way to see all programs of a specific type and status.

This view summarizes all IMS application programs by type and status. The view also shows the count of all programs having both the same type and status. Additional information includes the associated IMS name, OS/390 name, and IMS ID.

You can control the programs defined for your IMS by using line commands within this view (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display the Program Count by Type and Status view, type the view name (IPGSTAR) on any command line within IPSM.

22MAR2002 12: 34: 12 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----					
COMMAND ==>			SCROLL ==> PAGE		
CURR WIN ==> 1			ALT WIN ==>		
W1 =IPGSTAR=====IMSxxx==*=====22MAR2002==12: 34: 11====MVI MS====D====7					
CMD			IMS	MVS	IMS
---	Status	Type	Count	Name	Id
	Not initialized	BMP	32	IMSxxx	SYSC X18H
	Not initialized	TP	25	IMSxxx	SYSC X18H
	Not initialized	FP N	8	IMSxxx	SYSC X18H
	Started	FP U	1	IMSxxx	SYSC X18H
	Started	FP N	58	IMSxxx	SYSC X18H
	Started	BMP	42	IMSxxx	SYSC X18H
	Started	TP	36	IMSxxx	SYSC X18H

Figure 118. Program Count by Type and Status View (IPGSTAR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlink is provided in the IPGSTAR view.

Hyperlink from	To see
Type	IPGSUMR view, filtered on all programs of the same type and status

Chapter 14. Cross-Referencing IMS Resources

This chapter discusses the cross-reference views. System programmers, DBAs, and application programmers can pick their point of entry into these views. Using their preferred point of entry (database or program), they can conveniently cross-reference resources to

- Investigate issues like data unavailability
- Assess beforehand the impact of actions against IMS resources

The cross-reference views allow you to discover the association between programs and databases. For example, if a database is unavailable, you can easily discover the cause—the problem may be with the database or a program that uses the database.

With cross-reference views, you can manage programs as they relate to a database, and you can conveniently hyperlink to manage the database itself. Before stopping a program or taking a database offline, you can use these views to see

- All programs affected by a specific database
- All databases used by a program

The following cross-reference views are provided:

View name	Description
IXRSUMR	Cross-Reference All Records
IXPSUMR	Program Cross-Reference Summary
IXPDSUMR	Program-to-Database Cross-Reference
IXDSUMR	Database Cross-Reference Summary
IXDPSUMR	Database-to-Program Cross-Reference

Accessing the Cross-Reference Views

You can display any of the cross-reference views described in this chapter by typing the view name on the command line, or by typing VIEWS, and then selecting the view from the list displayed.

The cross-reference views allow you to pick your preferred point of entry for cross-reference information. If you prefer to view information from a database standpoint, choose a view whose third letter in the name begins with *D* (for database). If you prefer seeing information from a program standpoint, choose a view where the third letter in the name is *P* (for program).

The easiest way to access the cross-reference views is by hyperlinking from one of the DBCTL Easy or Fast Menus to the IMS Cross-Reference Menu (EZIMSX), shown in Figure 119. From the IMS Cross-Reference Menu, simply select the option showing the mode of cross-referencing you want to use.

```
22MAR2002 12:01:09 ----- INFORMATION DISPLAY (MAX) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZI MSX===== (ALL=====IMSxxx==) 22MAR2002==12:01:09====MVIMS====D====1
                                IMS Cross Reference Menu
                                IMS ID ---> IMSxxx
Transaction to                  +-----+ Database to
* Database and Program          | Place cursor on | . Tran and Program
* Database with Status          | menu item and  | * Tran with Status
* Program with Status           | press ENTER   | . Program with Status
                                +-----+
Transaction Selection            Program to
* Database and Program          . Database and Tran
* Database with Status          . Database with Status
* Program with Status           * Tran with Status
                                Database Selection
                                > Tran and Program
                                * Tran with Status
                                > Program with Status
                                Tools and Menus
                                > Utilities
                                > IMS Easy Menu
                                > MVIMS Main Menu
                                > IMS SSI Menu
                                . Return...
```

Figure 119. IMS Cross-Reference Menu (EZIMSX)

Assessing the Impact of Actions against IMS Resources

The cross-reference views are an exceptional tool for managing IMS resources. You can assess beforehand the impact of actions you might take against programs or databases.

Note: Issuing line commands in the cross-reference views requires a license for MAINVIEW AutoOPERATOR for IMS.

Taking a Database Offline

If you have a database in error, you can assess the impact of taking it offline before you take any action. You can identify the programs that use the database. Then you can issue line commands to modify their state (if appropriate) before you take action against the database in error.

For example, you can begin at the IXDPSUMR view. It shows you information about all programs using the database. You can then hyperlink from the Program Name field to the IPGSUMR view, where you can modify the state of associated programs. After returning to the IXDPSUMR view, you can hyperlink from the Database field to the IDBSUMR view, where you can go ahead and take the database offline.

Solving Failure to Take Database Offline

When you set out to take a database offline, the most common reason for failure is that you have a BMP or JBP currently running against that database (DFS565I message). That causes the DBR command to fail. With the cross-reference views, you can identify any BMP or JBP programs that are sensitive to that database and you can take actions against them.

You can start at the IXDPSUMR view. Given the database, you can see all programs that are sensitive to that database. You can also see the program type. If you select a program in the Program field, you can hyperlink to the IPGSUMR view, where you can change the state of the BMP or JBP program. After returning to the IXDPSUMR view, you can hyperlink from the Database field to the IDBSUMR view, where you can go ahead and issue a line command to take the database offline.

Solving Program Failure at Startup

When a program fails at startup due to unavailable resources (abend U3303, for example), you have an easy way to identify the unavailable resource and take action against it.

You can begin at the IXPDSUMR view. It shows you whether all needed databases are available and if not, the reason why. You can then hyperlink from the Database field to the IDBSUMR view, where you can issue line commands to modify the state of the database in question. After returning to the IXPDSUMR, you can hyperlink from the Program Name field to IPGSUMR view, where you can go ahead and start the program.

Cross-Reference All Records View

The Cross-Reference All Records view (IXRSUMR), shown in Figure 120, shows you a complete cross-reference of all programs and databases in the IMS.

The Cross-Reference All Records view is unsummarized. It contains a line entry for each database/program association. Each line entry is a separate record. The records are unsorted.

To display the Cross-Reference All Records view, type IXRSUMR on any command line within IPSM.

22MAR2002 13: 30: 40 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
W1 =IXRSUMR=====X19H=====22MAR2002==13: 30: 39====MVI MS====D==200
CMD Program Tran Database IMS Execute MVS IMS
--- Name Code Id IMS Id Name Name
APPC02 APPC02 unavail X19H X19H SYSC IMSxxx
DBFSAMP2 no tran DBFSAMD4 X19H X19H SYSC IMSxxx
DBFSAMP3 FPSAMP1 DBFSAMD1 X19H X19H SYSC IMSxxx
DBFSAMP3 FPSAMP1 DBFSAMD2 X19H X19H SYSC IMSxxx
DBFSAMP3 FPSAMP1 DBFSAMD3 X19H X19H SYSC IMSxxx
DBFSAMP3 FPSAMP1 DBFSAMD4 X19H X19H SYSC IMSxxx
DBFSAMP4 FPSAMP2 DBFSAMD1 X19H X19H SYSC IMSxxx
DBFSAMP4 FPSAMP2 DBFSAMD2 X19H X19H SYSC IMSxxx
DBFSAMP4 FPSAMP2 DBFSAMD3 X19H X19H SYSC IMSxxx
DBFSAMP4 FPSAMP2 DBFSAMD4 X19H X19H SYSC IMSxxx
DFHSAM15 no tran DI 21PART X19H X19H SYSC IMSxxx
DFHSAM24 no tran DI 21PART X19H X19H SYSC IMSxxx

Figure 120. Cross-Reference All Records View (IXRSUMR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

Because all records are displayed, this view contains no summarization or hyperlinks.

Program Cross-Reference Summary View

The Program Cross-Reference Summary view (IXPSUMR), shown in Figure 121, allows you to cross-reference programs and their associated databases.

The Program Cross-Reference Summary view lists all databases associated with all programs. With this view, you can

- Assess the impact of any actions you might take against a program
- Hyperlink to a view where you can perform actions against the program

To display the Program Cross-Reference Summary view, type IXPSUMR on any command line within IPSM.

```

22MAR2002 14: 25: 09 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
W1 =IXPSUMR=====IMSxxx==*=====22MAR2002==14: 25: 09====MVI MS====D==200
CMD Program Tran Database IMS Execute MVS IMS
--- Name Code Id IMS Id Name Name
APPC02 APPC02 unavail X17H X17H SYSC IMSxxx
APPC03 APPC03 unavail X17H X17H SYSC IMSxxx
APPC04 APPC04 unavail X17H X17H SYSC IMSxxx
APPC05 APPC05 unavail X17H X17H SYSC IMSxxx
APPC06 APPC06 unavail X17H X17H SYSC IMSxxx
BBFPGM01 BBFTRN01 unavail X17H X17H SYSC IMSxxx
BBFPGM02 no tran unavail X17H X17H SYSC IMSxxx
BBFPGM03 BBFTRN03 unavail X17H X17H SYSC IMSxxx
BBFPGM04 no tran unavail X17H X17H SYSC IMSxxx
BBFPGM05 BBFTRN05 unavail X17H X17H SYSC IMSxxx
BBFPGM06 no tran unavail X17H X17H SYSC IMSxxx
BBFPGM07 BBFTRN07 unavail X17H X17H SYSC IMSxxx
BBFPGM08 no tran unavail X17H X17H SYSC IMSxxx
BBFPGM09 BBFTRN09 unavail X17H X17H SYSC IMSxxx
BBFPGM10 no tran unavail X17H X17H SYSC IMSxxx
BBFPGM11 BBFTRN11 unavail X17H X17H SYSC IMSxxx

```

Figure 121. Program Cross-Reference Summary View (IXPSUMR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

Program-to-Database Cross-Reference View

The Program-to-Database Cross-Reference view (IXPDSUMR), shown in Figure 122 and Figure 123, provides useful program-to-database cross-reference information.

This view lists all programs, the databases they are sensitive to, and the status of those databases. You can use this summary view to

- See whether needed database and program resources are available before starting a program
- Hyperlink to issue line commands against a database
- Hyperlink to issue line commands against a program

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

If you want to check on resource availability for a particular program, simply hyperlink on the Database field. A filtered view of IDBSUMR appears, showing the status of all databases the program is sensitive to.

This view lists all programs, with their status, OS/390 name, and IMS ID. It also lists every database that each program needs to run. It provides the following information about each database: Level 1 and Level 2 status, authorization state, access method, organization type, access limit, EEQE count, local and global DMB numbers, and whether the database has been defined as nonrecoverable.

To display the Program-to-Database Cross-Reference view, type IXPDSUMR on any command line within IPSM.

22MAR2002 14: 30: 31 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----

COMMAND ==>

SCROLL ==> PAGE

CURR WIN ==> 1 ALT WIN ==>

>W1 =IXPDSUMR=====X19H=====22MAR2002==14: 30: 31====MVI MS====D==115

CMD	Program	IMS	Program	Database	TYPE	ORG	STATUS 1	STATUS 2	AUTH
---	Name	Id	Status		---	---	-----	-----	State---
	DBFSAMP1	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN		N/A
	DBFSAMP2	X19H	Started	DBFSAMD4			NOT- OPEN		NOT- AUTH
	DBFSAMP3	X19H	Started	DBFSAMD4			NOT- OPEN		NOT- AUTH
	DBFSAMP3	X19H	Started	DBFSAMD2	MSDB		OPENED		NOT- AUTH
	DBFSAMP3	X19H	Started	DBFSAMD1	MSDB		OPENED		NOT- AUTH
	DBFSAMP3	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN		N/A
	DBFSAMP4	X19H	Started	DBFSAMD1	MSDB		OPENED		NOT- AUTH
	DBFSAMP4	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN		N/A
	DBFSAMP4	X19H	Started	DBFSAMD2	MSDB		OPENED		NOT- AUTH
	DBFSAMP4	X19H	Started	DBFSAMD4			NOT- OPEN		NOT- AUTH
	DBFSAMP5	X19H	Started	DBFSAMD4			NOT- OPEN		NOT- AUTH
	DBFSAMP6	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN		N/A
	DFHSAM04	X19H	Started	DI 21PART			NOT- OPEN		NOT- AUTH
	DFHSAM05	X19H	Started	DI 21PART			NOT- OPEN		NOT- AUTH
	DFHSAM14	X19H	Started	DI 21PART			NOT- OPEN		NOT- AUTH
	DFHSAM15	X19H	Started	DI 21PART			NOT- OPEN		NOT- AUTH

Figure 122. Program-to-Database Cross-Reference View (IXPDSUMR)

```

22MAR2002 14: 31: 31 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IXPDSUMR=====X19H=====*=====22MAR2002==14: 30: 31====MVIMS====D==115
CMD Program AUTH ACCESS LDMB GDMB EEQE Non- MVS
--- Name State--- LEVEL- ---- Cnt- Recov Name
DBFSAMP1 N/A UPDT 122 N SYSC
DBFSAMP2 NOT- AUTH UPDT 123 N SYSC
DBFSAMP3 NOT- AUTH UPDT 123 N SYSC
DBFSAMP3 NOT- AUTH EXCL 121 N SYSC
DBFSAMP3 NOT- AUTH EXCL 120 N SYSC
DBFSAMP3 N/A UPDT 122 N SYSC
DBFSAMP4 NOT- AUTH EXCL 120 N SYSC
DBFSAMP4 N/A UPDT 122 N SYSC
DBFSAMP4 NOT- AUTH EXCL 121 N SYSC
DBFSAMP4 NOT- AUTH UPDT 123 N SYSC
DBFSAMP5 NOT- AUTH UPDT 123 N SYSC
DBFSAMP6 N/A UPDT 122 N SYSC
DFHSAMO4 NOT- AUTH UPDT 124 N SYSC
DFHSAMO5 NOT- AUTH UPDT 124 N SYSC
DFHSAM14 NOT- AUTH UPDT 124 N SYSC
DFHSAM15 NOT- AUTH UPDT 124 N SYSC

```

Figure 123. Program-to-Database Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the IXPDSUMR view.

Hyperlink from	To see
Database	IDBSUMR view, where you can see the status of all databases the program is sensitive to and issue line commands against databases
Program Name	IPGSUMR view, where you can see more program information and modify programs

Database Cross-Reference Summary View

The Database Cross-Reference Summary view (IXDSUMR), shown in Figure 124, allows you to cross-reference databases with the programs that use them or are associated with them.

The Database Cross-Reference Summary view lists all databases and all programs that are sensitive to each database. It also shows the IMS ID, the ID of the IMS where the transaction is executing, OS/390 name, and IMS name.

With this view, you can

- Assess the impact of any actions you might take against a database
- Hyperlink to a view where you can perform an action against a database

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display the Database Cross-Reference Summary view, type IXDSUMR on any command line within IPSM.

22MAR2002 14: 20: 35 ----- MAI NVI EW WI NDOW I NTERFACE(Rx. x. xx) MVI MS-----						
COMMAND ==>			SCROLL ==> PAGE			
CURR WIN ==> 1			ALT WIN ==>			
W1 =IXDSUMR=====X19H=====22MAR2002==14: 20: 35====MVI MS====D==25						
CMD	Database	Program	Tran	IMS	Execute	MVS
---	Name	Code	Id	IMS Id	Name	Name
	unavail	*****	*****	X19H	X19H	SYSC
	BE2PCUST	PTESTO**	TTESTO**	X19H	X19H	SYSC
	BE3ORDER	PTESTO**	TTESTO**	X19H	X19H	SYSC
	BE3ORDRX	PTESTO**	TTESTO**	X19H	X19H	SYSC
	BE3PARTS	PTESTO**	TTESTO**	X19H	X19H	SYSC
	BE3PSID1	PTESTO**	TTESTO**	X19H	X19H	SYSC
	CUSTHDAM	*****	*****	X19H	X19H	SYSC
	CUSTHIDM	*****	*****	X19H	X19H	SYSC
	CUSTHISM	*****	*****	X19H	X19H	SYSC
	CUSTINDX	*****	*****	X19H	X19H	SYSC
	DBFSAMD1	DBFSAMP*	FPSAMP**	X19H	X19H	SYSC
	DBFSAMD2	DBFSAMP*	FPSAMP**	X19H	X19H	SYSC
	DBFSAMD3	DBFSAMP*	*****	X19H	X19H	SYSC
	DBFSAMD4	DBFSAMP*	*****	X19H	X19H	SYSC
	DI21PART	DF*****	*****	X19H	X19H	SYSC
	IN01A01	PTESTO2	TTESTO2	X19H	X19H	SYSC

Figure 124. Database Cross-Reference Summary View (IXDSUMR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

Database-to-Program Cross-Reference View

The Database-to-Program Cross-Reference view (IXDPSUMR), shown in Figure 125 and Figure 126, shows you useful database-to-program cross-reference information.

This view lists all databases and the programs that use them. You can use this summary view to

- Assess beforehand the impact of any actions you might take against a database
- See whether needed database and program resources are available before starting a program
- Hyperlink to issue line commands against a database
- Hyperlink to issue line commands against a program

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

This view is especially useful for assessing the impact of taking a database offline. It provides extensive information about each program associated with a database: status, type, scheduling type, associated transaction, IMS ID and jobname, and OS/390 name.

To display the Database-to-Program Cross-Reference view, type IXDPSUMR on any command line within IPSM.

```
22MAR2002 14: 22: 48 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IXDPSUMR=====X19H=====*=====22MAR2002==14: 22: 42====MVI MS====D==115
CMD Database IMS DB      DB      Program Type Status      Sched MVS
---      Id      Status 1 Status 2 Name      Type      Name
BE2PCUST X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE2PCUST X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDER X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3ORDER X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDRX X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDRX X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PARTS X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PARTS X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3PSID1 X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PSID1 X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBM1 TP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB3 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB1 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB2 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB4 BMP Started Parallel SYSC
```

Figure 125. Database-to-Program Cross-Reference View (IXDPSUMR)

```
22MAR2002 14:23:59 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IXDPSUMR=====X19H=====*=====22MAR2002==14:22:42====MVI MS====D==115
CMD Database MVS IMS
--- Name Name
BE2PCUST SYSC IMSxxx
BE2PCUST SYSC IMSxxx
BE3ORDER SYSC IMSxxx
BE3ORDER SYSC IMSxxx
BE3ORDRX SYSC IMSxxx
BE3ORDRX SYSC IMSxxx
BE3PARTS SYSC IMSxxx
BE3PARTS SYSC IMSxxx
BE3PSID1 SYSC IMSxxx
BE3PSID1 SYSC IMSxxx
CUSTHDAM SYSC IMSxxx
CUSTHDAM SYSC IMSxxx
CUSTHDAM SYSC IMSxxx
CUSTHDAM SYSC IMSxxx
CUSTHDAM SYSC IMSxxx
CUSTHDAM SYSC IMSxxx
```

Figure 126. Database-to-Program Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the IXDPSUMR view.

Hyperlink from	To see
Database	IDBSUMR view, where you can issue line commands against the selected database
Program Name	IPGSUMR view, where you can modify the selected program

Chapter 15. Managing IMS Database Activity

This chapter describes the IMS database activity views, which provide a powerful tool for database analysis. They make problem recognition in an N-way data sharing environment much easier. Database administrators can use the views to recognize and solve problems stemming from

- Badly organized databases
- I/O contention
- Buffer pool sizes and assignments
- Buffer cross-invalidation

While views like STRAC and REGND identify I/O at a transaction level, the database activity views provide a database perspective. They are a system-wide resource, showing

- All DL/I calls against a database (except for DEDB, MSDB, and GSAM databases)
- All I/O activity for a database (except for DEDB, MSDB, and GSAM databases and I/O due to background write)

These views allow you to analyze I/O information as it relates to logical and physical databases. Realtime, interval, and history statistics are provided. Counts, rate, and elapsed time are reported for both DL/I calls and database I/O events.

Information is summarized in different ways, so you can solve database problems occurring at different levels. Summarization is by

- Data sharing group
- System
- Logical PCB (program control block)
- Physical database
- Volume
- Buffer pool

With the database activity views, you can examine DL/I call and I/O event information at the level of the problem that is occurring. Simply pick the view that corresponds to the type of information you need and the level at which you need to see it.

The database activity views are listed in Table 22 and Table 23 on page 180. This chapter describes and illustrates only realtime views. (The views described in this chapter are shaded in the tables). Where corresponding views from the two tables are nearly identical, only the Table 23 view is shown.

For information grouped by data sharing group, use the views listed in Table 22.

Table 22. Views that Group Information by Data Sharing Group

View name	Description	Refer to
IDAGDTLR	Database Activity Detail, Data Sharing Group Level (realtime)	Page 183
IDAGDTL	Database Activity Detail, Data Sharing Group Level (interval)	
IDAGSUMR	Database Activity, Data Sharing Group Level (realtime)	
IDAGSUM	Database Activity, Data Sharing Group Level (interval)	
IDALGSMR	Database Activity, Logical (PCB) Level (realtime)	Page 190
IDALGSM	Database Activity, Logical (PCB) Level (interval)	
IDAPGSMR	Database I/O Activity, Physical Database Level (realtime)	Page 192
IDAPGSM	Database I/O Activity, Physical Database Level (interval)	
IDAXGSMR	Database I/O Activity, Database/Volume Level (realtime)	Page 194
IDAXGSM	Database I/O Activity, Database/Volume Level (interval)	
IDAVGSMR	Database I/O Activity, Volume Level (realtime)	Page 196
IDAVGSM	Database I/O Activity, Volume Level (interval)	

For information grouped by IMS name, use the views listed in Table 23.

Table 23. Views that Group Information by IMS

View name	Description	Refer to
IDASSUMR	Database Activity, IMS System Level (realtime)	Page 185
IDASSUM	Database Activity, IMS System Level (interval)	
IDASDTLR	Database Activity Detail (realtime)	Page 187
IDASDTL	Database Activity Detail (interval)	
IDALSUMR	Database Activity, Logical (PCB) Level (realtime)	Page 190
IDALSUM	Database Activity, Logical (PCB) Level (interval)	
IDAPSUMR	Database I/O Activity, Physical Database Level (realtime)	Page 192
IDAPSUM	Database I/O Activity, Physical Database Level (interval)	
IDAXSUMR	Database I/O Activity, Database/Volume Level (realtime)	Page 194
IDAXSUM	Database I/O Activity, Database/Volume Level (interval)	
IDAVSUMR	Database I/O Activity, Volume Level (realtime)	Page 196
IDAVSUM	Database I/O Activity, Volume Level (interval)	
IDABVDTR	Database Activity Detail, VSAM Buffer Pool Level (realtime)	Page 197
IDABVDTL	Database Activity Detail, VSAM Buffer Pool Level (interval)	

Table 23. Views that Group Information by IMS (continued)

View name	Description	Refer to
IDABODTR	Database Activity, Detail OSAM Buffer Pool Level (realtime)	Page 199
IDABODTL	Database Activity, Detail OSAM Buffer Pool Level (interval)	
IDABVSMR	Database Activity, VSAM Buffer Pool Level (realtime)	Page 201
IDABVSM	Database Activity, VSAM Buffer Pool Level (interval)	
IDABOSMR	Database Activity, OSAM Buffer Pool Level (realtime)	Page 203
IDABOSM	Database Activity, OSAM Buffer Pool Level (interval)	

Accessing the IMS Database Activity Views

The easiest way to access the IMS database activity views is by hyperlinking from one of the Database Activity options in an Easy Menu (EZIMS, EZISSI, or EZIFAST).

You can also display any of the views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting the view from the list displayed.

Analyzing a Data Sharing Group

To analyze a data sharing group, begin with IDAGDTLR (for realtime) or IDAGDTL (for interval). You can easily hyperlink to these views from the EZISSI Easy Menu.

To look at multiple data sharing groups, begin with IDAGSUMR (for realtime) or IDAGSUM (for interval).

Hyperlinking from highlighted fields on the IDAGDTLR or IDAGDTL view is an easy way to go to other views showing related information.

Note: To get accurate information for a data sharing group, be sure to set your context to include all IMS systems defined in that share group. To set context, use the CONText command within one of the Easy Menus, such as EZIMS or EZISSI, before you access a specific view.

If you do not know which context name to use, you can try using CONText ALL. That command will display information from every accessible IMS system, which may include IMS systems that are not part of your data sharing group.

Analyzing an Individual IMS

To analyze one or more specific IMS systems, choose the IMS system with the CONtext command. Then begin with IDASSUMR (for realtime) or IDASSUM (for interval). You can easily hyperlink to those views from the Database Activity option in the EZIMS, EZISSI, or EZIFAST Easy Menu.

From the IDASSUMR or IDASSUM view, hyperlink from any row in the IMS Name column to go to the Database Activity Detail view, IDASDTLR (for realtime) or IDASDTL (for interval). This view provides detailed information for the selected IMS system, including information that is not available in other views:

- Number of I/Os per DL/I call
- Number of databases with DL/I calls
- Number of databases with I/O in the sample period
- Number of volumes with I/O in the sample period

This additional information helps you interpret the averages, rates, and totals reported in the other fields.

Another way to analyze an individual IMS is to bypass the IDASDTLR or IDASDTL view. You can hyperlink from various highlighted fields within the IDASSUMR or IDASSUM view to go directly to the related information shown in other database activity views.

Database Activity Detail View – Data Sharing Group Level

This section describes the Database Activity Detail View – Data Sharing Group Level (IDAGDTLR), which is shown in Figure 127. The view provides information about database I/O activity and DL/I calls for a data sharing group.

You can use this view to analyze I/O information as it relates to logical and physical databases. This view helps you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation.

This view shows DL/I call and I/O event totals, rates, and average times. It does not report DEDB, MSDB, or GSAM database activity or activity caused by background write. Statistics are summarized by data sharing group. To display the Database Activity Detail View – Data Sharing Group Level, enter IDAGDTLR on any command line within IPSM.

Note: Only IMS systems in your context are included in the count in the Num IMS field. If any of the IMSs in your data sharing group are not included in your context, the data you receive will be incomplete.

22MAR2002 12: 11: 22 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----										
COMMAND ==>					SCROLL ==> PAGE					
CURR WIN ==> 1					ALT WIN ==>					
<W1 =IDAGDTLR=====IMSPROD==*=====22MAR2002==16: 09: 16====MVI MS====D====1										
Data Sharing Group		NONE		Sample seconds.....				5. 1		
IMS Name(s).....		IMSxxx								
Number of IMS Systems...		1								
-- FULL FUNCTION DB I/O--				--- DATABASE CALLS -----						
Total	I/O Seconds	3. 06	DL/I Call	Total Seconds..			3. 184			
Average	I/O Time...	0. 003	DL/I Call	AVG Time.....			0. 0038			
Read	I/O AVG...	0. 003	DL/I Call	Rate.....			164. 89			
Write	I/O AVG...	0. 000	DL/I Call	Percent I/O...			96. 04			
Read	I/O Rate...	177. 51	DL/I Call	AVG NBR I/O...			1. 077			
Write	I/O Rate...	0. 00	DB GU	Rate.....			13. 81			
Sync Write	I/O Rate...	0. 00	DB GHU	Rate.....			95. 86			
Read OSAM XI	I/O Rate...	0. 00	DB GN	Rate.....			13. 81			
Databases	with I/O...	1	DB GNP	Rate.....			13. 81			
Volumes	with I/O...	2	DB GHN	Rate.....			13. 81			
			DB GHNP	Rate.....			13. 81			
			DB ISRT	Rate.....			0. 00			
			DB REPL	Rate.....			0. 00			
			DB DLET	Rate.....			0. 00			
			DB OTHER	Rate.....			0. 00			
			Databases with calls....				1			
			--- BUFFER POOLS -----							
			Worst VSAM Pool Hit Ratio				62. 6			
			Worst OSAM Pool Hit Ratio				30. 2			

Figure 127. Database Activity Detail View – Data Sharing Group Level (IDAGDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAGDTLR view.

Hyperlink from	To see
Number of IMS Systems	IDASSUMR view, which shows statistics for each IMS in the data sharing group
Databases with I/O	IDAPGSMR view, which shows I/O statistics at the physical database level for the data sharing group
Volumes with I/O	IDAVGSMR view, which shows statistics for all DASD volumes incurring I/O in the data sharing group
Databases with calls	IDALGSMR view, where you can see the DL/I call and I/O statistics at the logical database level for the data sharing group
Worst VSAM Pool Hit Ratio	IDABVSMR view, where you can see activity for the VSAM buffer pools used by the data sharing group
Worst OSAM Pool Hit Ratio	IDABOSMR view, where you can see activity for the OSAM buffer pools used by the data sharing group

Database Activity View – IMS System Level

This section describes the Database Activity View – IMS System Level (IDASSUMR), which is shown in Figures 128, 129, 130, and 131. This view provides information about database I/O activity and DL/I calls for one or more IMS systems.

You can use this view to analyze I/O information as it relates to the logical databases. The view helps you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation.

This view shows DL/I call and I/O event totals, rates, and average times for one or more IMS systems. It does not report DEDB, MSDB, and GSAM database activity or activity caused by background write. Statistics are summarized by IMS system.

To display the Database Activity View – IMS System Level, enter IDASSUMR on any command line within IPSM.

```
22MAR2002 12:12:42 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDASSUMR=====IMSxxx==*=====22MAR2002==12:12:42====MVI MS====D====1
IMS      Data      Call Call      Call I/O I/O      Read Read      Write Write OSAM XI
Name     ShrGrp    Rate AVG      %I/O Rate AVG      Rate AVG      Rate AVG      ReadRate
IMSxxx   IMSNWAY  46.1 0.00129 90.7 48.8 0.001 48.8 0.001 0.0 0.001 0
```

Figure 128. Database Activity View – IMS System Level (IDASSUMR)

```
22MAR2002 12:12:42 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IDASSUMR=====IMSxxx==*=====22MAR2002==12:12:42====MVI MS====D====1
IMS      OSAM XI    VSAMPool OSAMPool BufferSteal VSAMBckgrd OSAMPurge GU
Name     ReadRate    HitRatio HitRatio WriteRate WriteRate WriteRate Rate
IMSxxx           0.0 63.99 36.93 0.00 0.00 0.00 3.8
```

Figure 129. Database Activity View – IMS System Level, Scrolled Right

```
22MAR2002 12:14:34 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IDASSUMR=====IMSxxx==*=====22MAR2002==12:12:42====MVI MS====D====1
IMS      GU  GHU  GHN  GHNP GN  GNP  ISRT  DLET  REPL  Other IMS
Name     Rate Rate Rate Rate Rate Rate Rate Rate Rate Rate ID
IMSxxx    3.8 26.7 3.8 3.8 3.8 3.8 0.2 0.2 0.2 0.0 H71H
```

Figure 130. Database Activity View – IMS System Level, Scrolled Right Again

```

22MAR2002 12: 11: 22 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IDASSUMR=====IMSxxx==*=====08SEP2000==14: 38: 45====MVI MS====D====1
IMS      IMS      MVS
Name     ID       Name
IMSxxx   H71H    SJSC

```

Figure 131. Database Activity View – IMS System Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDASSUMR view.

Hyperlink from	To see
IMS Name	IDASDTLR view, which provides detailed information for the selected IMS system
Data ShrGrp	IDAGSUMR view, which provides the statistics for the data sharing group that the selected IMS belongs to
Call Rate	IDALSUMR view, which shows the DL/I call and I/O statistics at the logical database level for each IMS
I/O Rate	IDAPSUMR view, where you can see the I/O statistics at the physical database level for each IMS
VSAMPoolHitRatio	IDABVSMR view, which provides database I/O activity information for each IMS system, summarized at the VSAM buffer pool level
OSAMPoolHitRatio	IDABOSMR view, which provides database I/O activity information for each IMS system, summarized at the OSAM buffer pool level

Database Activity Detail View

This section describes the Database Activity Detail View (IDASDTLR), which is shown in Figure 132 on page 188. This view provides detailed information about database I/O activity and DL/I calls for a selected IMS system.

This view can help you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation. The view shows DL/I call and I/O event totals, rates, and average times. It also provides information that is not included in other database activity views:

- Number of I/Os per DL/I call
- Number of seconds (or minutes, if interval) during which the data has been collected
- Number of databases with DL/I calls
- Number of databases with I/O in the sample period
- Number of volumes with I/O in the sample period

This additional information helps you interpret the averages, rates, and totals reported in the other fields.

The IDASDTLR view does not report DEDB, MSDB, and GSAM database activity or activity caused by background write. Statistics are summarized for the selected IMS system.

You can display the Database Activity Detail View in any of the following ways:

- Enter IDASDTLR on any command line within IPSM.
- Hyperlink from the Database Act i v i t y option in the EZIMS, EZISSI, or EZIFAST Easy Menu.
- Hyperlink from any row in the I M S Name column in the IDASSUMR view.
- Hyperlink from the I M S Name field of the IDAGSUMR view, and then hyperlink from any row in the I M S Name column of the IDASSUMR view.

22MAR2002 15:06:14 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
W1 =IDASDTLR=====IMSxxx==*======22MAR2002==15:06:14====MVI MS====D====1			
IMS Name.....	IMSxxx	Sample seconds.....	8.6
IMS ID.....	H71H		
Data Sharing Group.....	IMSNWAY		
--FULL FUNCTION DB I/O--		--- DATABASE CALLS ---	
Total	I/O Seconds	15.70	DL/I Call Total Seconds. 17.564
Average	I/O Time...	0.001	DL/I Call AVG Time..... 0.0014
Read	I/O AVG....	0.001	DL/I Call Rate..... 24.20
Write	I/O AVG....	0.000	DL/I Call Percent I/O... 89.38
Read	I/O Rate...	25.14	DL/I Call AVG NBR I/O... 1.039
Write	I/O Rate...	0.00	DB GU Rate..... 1.93
Sync Write	I/O Rate...	1.00	DB GHU Rate..... 13.92
Read OSAM XI	I/O Rate...	0.00	DB GN Rate..... 1.93
Databases with I/O...	1	DB GNP Rate.....	1.93
Volumes with I/O...	2	DB GHN Rate.....	1.93
		DB GHNP Rate.....	1.93
		DB ISRT Rate.....	0.19
		DB REPL Rate.....	0.19
		DB DLET Rate.....	0.19
		DB OTHER Rate.....	0.03
		Databases with calls...	1
		--- BUFFER POOLS ---	
		VSAM Bufr Pool Hit Ratio	65.1
		OSAM Bufr Pool Hit Ratio	41.7

Figure 132. Database Activity Detail View (IDASDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDASDTLR view.

Hyperlink from	To see
Data Sharing Group	IDAGSUMR view, where you can see the statistics for the data sharing group that the IMS belongs to
Databases with I/O	IDAPSUMR view, where you can see these I/O statistics at the physical database level for each IMS
Volumes with I/O	IDAVSUMR view, where you can see all the DASD volumes that have I/O occurring against them within the current time frame
Databases with calls	IDALSUMR view, where you can see these DL/I call and I/O statistics at the logical database level for each IMS
VSAM Bufr Pool Hit Ratio	IDABVSMR view, which provides database I/O activity information for each IMS system summarized at the VSAM buffer pool level
OSAM Bufr Pool Hit Ratio	IDABOSMR view, which provides database I/O activity information for each IMS system summarized at the OSAM buffer pool level

Tuning Tip: If a database has excessive I/O, a buffer pool may be too small. Use the VSAM Bufr Pool Hit Ratio and the OSAM Bufr Pool Hit Ratio hyperlinks to see information that can help you determine whether you need to increase the size of the buffer pool.

Database Activity View – Logical (PCB) Level

This section describes the Database Activity View – Logical (PCB) Level (IDALSUMR or IDALGSMR), shown in Figures 133, 134, and 135. This view provides statistics about the activity of logical databases.

You can use this view to analyze database I/O and DL/I call information as it relates to the logical databases. It can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, or buffer cross-invalidation.

This view shows totals, rates, and averages for DL/I calls and I/O events. Statistics are for each open database associated with a PCB (program control block) against which DL/I calls have been made.

The database named in a PCB can be either a physical database or a logical database. Rows in this view that report on logical databases may include I/O statistics for one or more physical databases. This view does not report DEDB, MSDB, or GSAM database activity or activity caused by background write.

To display the Database Activity View – Logical (PCB) Level, enter IDALSUMR on any command line within IPSM.

```
22MAR2002 12: 19: 09 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDALSUMR=====IMSxxx==*=====22MAR2002==12: 19: 09====MVI MS====D====1
PCB      Physical Call Call      Call Call      I/O I/O      Read Read  Write Write
DBNAME   DBNAME   Rate AVG      %I/O Avg I/Os Rate AVG      Rate AVG      Rate AVG
DB1H     DB1H     125. 0.00064 20.3      0.10 13.7 0.001 11.9 0.001 1.8 0.001
```

Figure 133. Database Activity View – Logical (PCB) Level (IDALSUMR)

```
22MAR2002 12: 19: 37 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IDALSUMR=====IMSxxx==*=====22MAR2002==12: 19: 09====MVI MS====D====1
PCB      Write OSAM XI      GU  GHU  GHN  GHNP  GN  GNP  ISRT  DLET  REPL
DBNAME   AVG  ReadRate  Rate Rate Rate Rate Rate Rate Rate Rate Rate
DB1H     0.001      0.0      2.0 53.6 2.0 2.0 2.0 2.0 19.8 19.8 19.8
```

Figure 134. Database Activity View – Logical (PCB) Level, Scrolled Right

```
22MAR2002 12: 19: 54 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IDALSUMR=====IMSxxx==*=====22MAR2002==12: 19: 09====MVI MS====D====1
PCB      REPL Other IMS  IMS      Data      MVS
DBNAME   Rate Rate ID   Name      ShrGrp      Name
DB1H     19.8 2.2 H71H IMSxxx  NONE      SJSD
```

Figure 135. Database Activity View – Logical (PCB) Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDALSUMR view.

Hyperlink from	To see
Physical DBNAME	IDAPSUMR view, where you can see statistics for I/O incurred against the physical databases that were accessed by DL/I calls from this PCB, whatever the PSBs it may be associated with

Database I/O Activity View – Physical Database Level

This section describes the Database I/O Activity View – Physical Database Level (IDAPSUMR or IDAPGSMR), shown in Figures 136, 137, and 138. This view provides information about database I/O activity at the physical database level.

You can use this view to analyze I/O information as it relates to physical databases. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O event totals, rates, and average times for all open databases, excluding DEDB, MSDB, and GSAM databases and activity caused by background write. Buffer pool information is also provided.

Note: For VSAM databases, the Num Vols field in some cases may not reflect the actual number of volumes occupied by a specific database. This can occur (the number of volumes shown can be less than the actual number of volumes) if the database has been extended into more than one new volume and has not subsequently been closed and reopened.

If a database is extended into only one new volume, the value shown in the Num Vols field will be accurate, even if that database has not been subsequently closed and reopened.

To display the Database I/O Activity View – Physical Database Level, enter IDAPSUMR on any command line within IPSM.

```
22MAR2002 12: 20: 46 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVI MS-----
COMMAND =====> SCROLL =====> PAGE
CURR WIN =====> 1 ALT WIN =====>
>W1 =IDAPSUMR=====IMSxxx=====22MAR2002==12: 20: 46====MVI MS====D====4
```

Physical DBNAME	Database Type	Partition	DDNAME	Num Vols	Read Rate	Read AVG	Write Rate	Write AVG	Pool ID	Pool Type
DB1H	PHI DAM	DB1H1	DB1H1A	1	6.3	0.001	0.0	0.000	OSM4	OSAM
DB1H	PHI DAM	DB1H2	DB1H2A	1	4.7	0.001	0.0	0.000	OSM4	OSAM
DB1H	PI NDEX	DB1H2	DB1H2X	1	4.7	0.001	0.0	0.000	XXXX	VSM-D
DB1H	PI NDEX	DB1H1	DB1H1X	1	4.7	0.001	0.0	0.000	XXXX	VSM-D

Figure 136. Database I/O Activity View – Physical Database Level (IDAPSUMR)

```
22MAR2002 12: 20: 46 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVI MS-----
COMMAND =====> SCROLL =====> PAGE
CURR WIN =====> 1 ALT WIN =====>
+W1 =IDAPSUMR=====IMSxxx=====22MAR2002==12: 20: 46====MVI MS====D====4
```

Physical DBNAME	Pool Type	Buffer Size	PCB DBNAME	Average NonKeyRead	Average KeyRead	Average NonKeyWrite	Average KeyWrite
DB1H	OSAM	4096	DB1H	0.001	0.000	0.000	0.000
DB1H	OSAM	4096	DB1H	0.001	0.000	0.000	0.000
DB1H	VSM-D	2048	DB1H	0.000	0.001	0.000	0.000
DB1H	VSM-D	2048	DB1H	0.000	0.001	0.000	0.000

Figure 137. Database I/O Activity View – Physical Database Level, Scrolled Right

22MAR2002 12: 22: 02 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----							
COMMAND ==>						SCROLL ==> PAGE	
CURR WIN ==> 1			ALT WIN ==>				
<W1 =IDAPSUMR=====IMSxxx==*=====22MAR2002==12: 20: 46====MVI MS====D====4							
Physical	Average	Average	OSAM XI	IMS	IMS	Data	MVS
DBNAME	KeyWrite	SyncWrite	Read Rate	ID	Name	ShrGrp	Name
DB1H	0.000	0.000	0.0	H71H	IMSxxx	IMSNWAY	SJSC
DB1H	0.000	0.000	0.0	H71H	IMSxxx	IMSNWAY	SJSC
DB1H	0.000	0.000	0.0	H71H	IMSxxx	IMSNWAY	SJSC
DB1H	0.000	0.000	0.0	H71H	IMSxxx	IMSNWAY	SJSC

Figure 138. Database I/O Activity View – Physical Database Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAPSUMR view.

Hyperlink from	To see
Physical DBNAME	IDBSUMR view, which shows database status and provides commands for database management.
Num Vols	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. You can use the IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.
Pool ID	IDABVDTR view (for VSAM databases) or IDABODTR view (for OSAM databases). The IDABVDTR and IDABODTR views show buffer pool activity for the selected buffer pool

Database I/O Activity View – Database/Volume Level

This section describes the Database I/O Activity View – Database/Volume Level (IDAXSUMR or IDAXGSMR), shown in Figures 139, 140, 141, and 142. This view provides information about database I/O activity at the VSAM component and database volume level.

You can use this view to analyze I/O statistics as they relate to the physical database volumes, and in the case of VSAM, as they relate to specific VSAM database components. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view summarizes information by database, with one row for each volume that the database occupies. If a database occupies more than one volume, there will be more than one line per database. The view shows I/O totals, rates, and average times. Statistics are for all open databases, excluding DEDB, MSDB, and GSAM databases and activity caused by background write. Buffer pool information is also provided.

Note: For VSAM databases, I/O against new extents will not be attributed to a specific volume until the extended database has been closed and reopened. Until the database has been closed and reopened, the I/O will be reported as OTHER in the VolSer field.

To display the Database I/O Activity View – Database/Volume Level, enter IDAXSUMR on any command line within IPSM.

22MAR2002 12: 22: 33 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----										
COMMAND ==>						SCROLL ==> PAGE				
CURR WIN ==> 1			ALT WIN ==>							
>W1 =IDAXSUMR=====IMSxxx==*=====22MAR2002==12: 22: 33=====MVI MS=====D=====4										
Physical Database						Read Read Write Write Pool				
DBNAME	Type	Partition	DDNAME	Type	VOLSER	Rate	AVG	Rate	AVG	ID
DB1H	PHI DAM	DB1H1	DB1H1A	OSAM	BAB321	4.9	0.001	0.0	0.000	OSM4
DB1H	PHI DAM	DB1H2	DB1H2A	OSAM	BAB321	3.7	0.001	0.0	0.000	OSM4
DB1H	PI NDEX	DB1H2	DB1H2X	VSM-D	BAB305	3.7	0.001	0.0	0.000	XXXX
DB1H	PI NDEX	DB1H1	DB1H1X	VSM-D	BAB305	3.7	0.001	0.0	0.000	XXXX

Figure 139. Database I/O Activity View – Database/Volume Level (IDAXSUMR)

22MAR2002 12: 23: 08 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>						SCROLL ==> PAGE			
CURR WIN ==> 1			ALT WIN ==>						
+W1 =IDAXSUMR=====IMSxxx==*=====22MAR2002==12: 22: 33====MVI MS====D=====4									
Physical	Pool	Pool	Buffer	Number		Nonkey	Key	NonKey	Key
DBNAME	ID	Type	Size	Buffers	Fixed	ReadAVG	ReadAVG	WriteAVG	WriteAVG
DB1H	OSM4	OSAM	4096	5	BFR, BLK	0.001	0.000	0.000	0.000
DB1H	OSM4	OSAM	4096	5	BFR, BLK	0.001	0.000	0.000	0.000
DB1H	XXXX	VSM-D	2048	5	BFR, BLK	0.000	0.001	0.000	0.000
DB1H	XXXX	VSM-D	2048	5	BFR, BLK	0.000	0.001	0.000	0.000

Figure 140. Database I/O Activity View – Database/Volume Level, Scrolled Right

22MAR2002 12: 23: 35 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>						SCROLL ==> PAGE			
CURR WIN ==> 1			ALT WIN ==>						
+W1 =IDAXSUMR=====IMSxxx==*=====22MAR2002==12: 22: 33====MVI MS====D====4									
Physical	Key	Sync	OSAM XI	Low	High	IMS	IMS	Data	
DBNAME	WriteAVG	WriteAVG	Read Rate	RBA/RBN	RBA/RBN	ID	Name	ShrGrp	
DB1H	0.000	0.000	0.0	0	18	H71H	IMSxxx	IMSNWAY	
DB1H	0.000	0.000	0.0	0	18	H71H	IMSxxx	IMSNWAY	
DB1H	0.000	0.000	0.0	0	347FF	H71H	IMSxxx	IMSNWAY	
DB1H	0.000	0.000	0.0	0	347FF	H71H	IMSxxx	IMSNWAY	

Figure 141. Database I/O Activity View – Database/Volume Level, Scrolled Right Again

22MAR2002 12: 23: 56 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----		
COMMAND ==>		SCROLL ==> PAGE
CURR WIN ==> 1	ALT WIN ==>	
<W1 =IDAXSUMR=====IMSxxx==*=====22MAR2002==12: 22: 33====MVI MS====D====4		
Physical	Data	MVS
DBNAME	ShrGrp	Name
DB1H	IMSNWAY	SJSC
DB1H	IMSNWAY	SJSC
DB1H	IMSNWAY	SJSC
DB1H	IMSNWAY	SJSC

Figure 142. Database I/O Activity View – Database/Volume Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAXSUMR view.

Hyperlink from	To see
Physical DBNAME	IDBSUMR view, which shows database status and provides commands for database management.
VOLSER	IDAVSUMR view, where you can see statistics for all I/O to this volume, not just to this database. In the IDAVSUMR view you can see how much of the I/O total is occurring to the volume
Pool ID	IDABVDTR view (for VSAM databases) or IDABODTR view (for OSAM databases), which show buffer pool activity for the selected buffer pool.

Database I/O Activity View – Volume Level

This section describes the Database I/O Activity View – Volume Level (IDAVSUMR or IDAVGSMR), shown in Figures 143 and 144. This view provides database I/O activity information at the volume level.

You can use this view to analyze I/O information as it relates to the volumes. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows information about the database I/O activity that occurs to each volume. For each volume, it identifies I/O totals, rates, and average times for all open databases, excluding DEDB, MSDB, and GSAM databases and activity caused by background write.

Note: For VSAM databases, I/O against new extents will not be attributed to a specific volume until the extended database has been closed and reopened. Until the database has been closed and reopened, the I/O will be reported as OTHER in the VolSer field.

To display the Database I/O Activity View – Volume Level, enter IDAVSUMR on any command line within IPSM.

22MAR2002 12: 26: 01 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> PAGE				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IDAVSUMR=====IMSxxx==*=====22MAR2002==12: 26: 00====MVI MS====D====2									
Physical			Read Read		Write Write		Nonkey Key		NonKey
VOLSER	DBNAME	DDNAME	Rate	AVG	Rate	AVG	ReadAVG	ReadAVG	WriteAVG
BAB321	DB1H	DB1H1***	7. 7	0. 003	1. 7	0. 002	0. 003	0. 000	0. 002
BAB305	DB1H	DB1H1X	3. 9	0. 002	0. 0	0. 000	0. 000	0. 002	0. 000

Figure 143. Database I/O Activity View – Volume Level (IDAVSUMR)

22MAR2002 14: 09: 18 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----									
COMMAND ==>					SCROLL ==> PAGE				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IFPSUMR=====IMSxxx==*=====22MAR2002==14: 05: 42====MVI MS====D====2									
CM Area		Auth		Access EQE		DBD	IMS	MVS	IMS
-- Name	Status 1	Status 2	State	Level	Cnt	Name	ID	ID	Name
CUSA01A	NOT-OPEN		NOT-AUTH	EXCL		BBFDDB11	X17H	SJSC	IMSxxx
CUSA010	NOT-OPEN		NOT-AUTH	EXCL		BBFDDB01	X17H	SJSC	IMSxxx

Figure 144. Database I/O Activity View – Volume Level, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDAVSUMR view.

Hyperlink from	To see
Physical DBNAME	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. With the IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity Detail View – VSAM Buffer Pool Level

This section describes the Database Activity Detail View – VSAM Buffer Pool Level (IDABVDTR), which is shown in Figure 145. This view provides information about a selected VSAM buffer pool, including definitions, specifications, utilization, and database I/O activity.

The view shows buffer pool activity levels, hit ratios, the average life of a block in a buffer pool, hiperspace space utilization, and I/O statistics. The I/O statistics are for all open databases using the specified buffer pool.

The view identifies the databases that have had activity against the buffer pool and the relative I/O expense for database blocks being read, reread, or written.

You can use this view to optimize a buffer pool definition by checking to see if a pool needs more buffers. The view shows you the current relationships of databases to the buffer pool and their current performance, and you can use that information to decide which databases need to be assigned to a separate pool.

After you make buffer pool changes, you can use the time command to compare your results with the results from a prior time.

To display the Database Activity Detail View – VSAM Buffer Pool Level, enter IDABVDTR on any command line within IPSM.

22MAR2002 12: 26: 01 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
<W1 =IDABVDTR=====IMSxxx=====22MAR2002==16: 43: 54====MVI MS====D====1			
BUFFER POOL DEFINITION...		Sample Seconds.....	5
VSAM Pool ID.....	XXXX	IMS ID.....	H71H
VSAM Pool Number.....	4	IMS Name.....	IMSxxx
Pool Type.....	DATA	MVS Name.....	SJSC
Buffer Fix Options.....	BFR, BLK	Data Sharing Group....	NONE
Buffer Size.....	4096	Databases with I/O....	DB1H
Number Buffers.....	5	DD Names.....	DB1H****
Number Hiperspace Buffers.	5	VOLSERS.....	BAB3**
BUFFER POOL STATISTICS...		RELATED I/O STATISTICS.	
Hit Ratio.....	100.00	Read I/O Rate.....	0.00
Hiperspace Hit Ratio.....	0.00	Write I/O Rate.....	0.00
Average Time In Pool.....	?	Sync Write Rate.....	0.00
CI Search Rate.....	409.05	Background Write Rate..	0.00
Successful Hprs Read Rate.	0.00	Buffer Steal Write Rate	0.00
Failed Hprs Read Rate....	0.00		
Successful Hprs Write Rate	0.00		
Failed Hprs Write Rate....	0.00		

Figure 145. Database Activity Detail View – VSAM Buffer Pool Level (IDABVDTR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDABVDTR view.

Hyperlink from	To see
Database with I/O	IDAXSUM view, where you can see the statistics broken down by VSAM component and volume. You can use the IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity Detail View – OSAM Buffer Pool Level

This section describes the Database Activity Detail View – OSAM Buffer Pool Level (IDABODTR), which is shown in Figure 146. This view provides information about a selected OSAM buffer pool, including definitions, specifications, utilization, and database I/O activity.

The view shows buffer pool activity levels, hit ratios, the average life of a block in a buffer pool, OSAM cache utilization, sequential buffering utilization, and I/O statistics. The I/O statistics are for all open databases using the specified buffer pool.

The view identifies the databases that have had activity against the buffer pool and the relative I/O expense for database blocks being read, reread, or written.

You can use this view to optimize a buffer pool definition by checking to see if a pool needs more buffers. The view shows you the current relationships of databases to the buffer pool and their current performance, and you can use that information to decide which databases need to be assigned to a separate pool.

After you make buffer pool changes, you can use the time command to compare your results with the results from a prior time.

To display the Database Activity Detail View – OSAM Buffer Pool Level, enter IDABODTR on any command line within IPSM.

22MAR2002 12: 26: 01 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
<W1 =IDABODTR=====IMSxxx==*=====22MAR2002==16: 43: 54====MVI MS====D====1			
BUFFER POOL DEFINITION		Sample Seconds.....	5
OSAM Pool ID.....	OSM4	IMS ID.....	H71H
Buffer Fix Options....	BFR, BLK	IMS Name.....	IMSxxx
OSAM Cache Option....	NoCache	MVS Name.....	SJSC
Buffer Size.....	4096	Data Sharing Group....	NONE
Number Buffers.....	5	Databases with I/O....	DB1H
		DD Names.....	DB1H****
		VOLSERS.....	BAB321
BUFFER POOL STATISTICS		RELATED I/O STATISTICS.	
Hit Ratio.....	30. 06	Read I/O Rate.....	72. 46
OSAM Cache Hit Ratio..	N/A	Write I/O Rate.....	0. 00
OSAM Cache Search Rate	N/A	Sync Write Rate.....	0. 00
Average Time In Pool..	0. 02	Buffer Steal Write Rate	0. 00
OSAM Block Search Rate	310. 78	Purge Write Rate.....	0. 00
OSAM XI IO Rate.....	0. 00	SB Async Seq Read Rate.	0. 00
		SB Sync Seq Read Rate..	0. 00

Figure 146. Database Activity Detail View – OSAM Buffer Pool Level (IDABODTR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDABODTR view.

Hyperlink from	To see
Database with I/O	IDAXSUM view, where you can see the statistics broken down by OSAM component and volume. You can use the IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity View – VSAM Buffer Pool Level

This section describes the Database Activity View – VSAM Buffer Pool Level (IDABVSMR), which is shown in Figures 147, 148, and 149. This view provides database I/O activity information for VSAM databases summarized at the buffer pool level.

You can use this view to analyze I/O information as it relates to buffer pools. The view helps you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O totals, rates, and average times for all open VSAM databases.

To display the Database Activity View – VSAM Buffer Pool Level, enter IDABVSMR on any command line within IPSM.

```
22MAR2002 12:36:15 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===> SCROLL ===> PAGE
CURR WIN ===> 1 ALT WIN ===>
>W1 =IDABVSMR=====IMSxxx=====22MAR2002==12:36:15====MVI MS====D====5
VSAM Pool Bufr Num Srch Hit Hprsp HprHit AVGTime Databases Read Write
Pool ID Type Size Bufr Rate Ratio Bufr Ratio InPool with I/O Rate Rate
XXXX DATA 2048 5 1.89 25.4 0 0.00 3.55 DB1H 0.5 0.00
XXXX DATA 512 5 0.00 0.0 0 0.00 ? 0.0 0.00
XXXX DATA 1024 5 0.00 0.0 0 0.00 ? DB1H 0.0 0.00
XXXX DATA 4096 5 1.89 100.0 5 0.00 ? DB1H 0.0 0.00
XXXX DATA 8192 5 0.00 0.0 5 0.00 ? 0.0 0.00
```

Figure 147. Database Activity View – VSAM Buffer Pool Level (IDABVSMR)

```
22MAR2002 12:36:41 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===> SCROLL ===> PAGE
CURR WIN ===> 1 ALT WIN ===>
+W1 =IDABVSMR=====IMSxxx=====22MAR2002==12:36:15====MVI MS====D====5
VSAM Write Read Write Syncpt BufrSteal Bckground SuccHpr FailHpr
Pool ID Rate AVG AVG WriteRate WriteRate WriteRate ReadRate ReadRate
XXXX 0.00 0.001 0.000 0.000 0.00 0.00 0.00 0.00 0.00
XXXX 0.00 0.000 0.000 0.000 0.00 0.00 0.00 0.00 0.00
XXXX 0.00 0.000 0.000 0.000 0.00 0.00 0.00 0.00 0.00
XXXX 0.00 0.000 0.000 0.000 0.00 0.00 0.00 0.00 0.00
XXXX 0.00 0.000 0.000 0.000 0.00 0.00 0.00 0.00 0.00
```

Figure 148. Database Activity View – VSAM Buffer Pool Level, Scrolled Right

```
22MAR2002 12:37:12 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ===> SCROLL ===> PAGE
CURR WIN ===> 1 ALT WIN ===>
+W1 =IDABVSMR=====IMSxxx=====22MAR2002==12:36:15====MVI MS====D====5
VSAM FailHpr SuccHpr FailHpr Data IMS IMS MVS
Pool ID ReadRate WriteRate WriteRate Fixed ShrGrp ID Name Name
XXXX 0.00 0.00 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
XXXX 0.00 0.00 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
XXXX 0.00 0.00 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
XXXX 0.00 0.00 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
```

Figure 149. Database Activity View – VSAM Buffer Pool Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDABVSMR view.

Hyperlink from	To see
VSAM Pool ID	IDABVDTR view, where you can see a detailed view of the same buffer pool.
Databases with I/O	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. With the IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity View – OSAM Buffer Pool Level

This section describes the Database Activity View – OSAM Buffer Pool Level (IDABOSMR), which is shown in Figures 150, 151, and 152. This view provides database I/O activity information for OSAM databases, summarized at the buffer pool level.

You can use this view to analyze I/O information as it relates to buffer pools. The view helps you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O totals, rates, and average times for all open OSAM databases.

To display the Database Activity View – OSAM Buffer Pool Level, enter IDABOSMR on any command line within IPSM.

```
22MAR2002 12:37:12 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDABOSMR=====IMSxxx=====22MAR2002==12:36:15====MVI MS====D====4
OSAM Bufr Num Srch Hit OSAMCach OSAMCach AvgTime Databases Read Write
Pool ID Size Bufrs Rate Ratio HitRatio Option In Pool With I/O Rate Rate
OSM4 4096 5 84.2 39.84 0.00 All 0.10 DB1H 16.90 0.00
(none) 1024 5 0.00 0.00 N/A NoCache 0.00 0.00
(none) 2048 5 0.00 0.00 N/A NoCache 0.00 0.00
(none) 8192 5 0.00 0.00 N/A NoCache 0.00 0.00
```

Figure 150. Database Activity View – OSAM Buffer Pool Level (IDABOSMR)

```
22MAR2002 12:36:41 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IDABOSMR=====IMSxxx=====22MAR2002==12:36:15====MVI MS====D====4
OSAM Write Read Write Syncpt BufrSteal Purge SBASyncSeq SBSyncSeq
Pool ID Rate AVG AVG WriteRate WriteRate WriteRate ReadRate ReadRate
OSM4 0.00 0.001 0.000 0.00 0.00 0.02 0.00 0.00
(none) 0.00 0.000 0.000 0.00 0.00 0.00 0.00 0.00
(none) 0.00 0.000 0.000 0.00 0.00 0.00 0.00 0.00
(none) 0.00 0.000 0.000 0.00 0.00 0.00 0.00 0.00
```

Figure 151. Database Activity View – OSAM Buffer Pool Level, Scrolled Right

```
22MAR2002 12:37:12 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IDABOSMR=====IMSxxx=====22MAR2002==12:36:15====MVI MS====D====4
OSAM SBSyncSeq Buffer Fix Data IMS IMS MVS
Pool ID ReadRate Settings ShrGrp ID Name Name
OSM4 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
(none) 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
(none) 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
(none) 0.00 BFR, BLK IMSNWAY H71H IMSxxx SJSC
```

Figure 152. Database Activity View – OSAM Buffer Pool Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDABOSMR view.

Hyperlink from	To see
OSAM Pool ID	IDABODTR view, where you can see a detailed view of the same buffer pool.
Databases with I/O	IDAXSUMR view, where you can see the statistics broken down by OSAM component and volume. With the IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or OSAM component.

Chapter 16. Analyzing Data Sets

This chapter describes the data set views, which you can use to analyze IMS log data sets. These views support both history and realtime data. With these views, you can

- Identify the data sets currently in use
- See the rate of block writes, both current and in history
- Discover volume information, making key IMS data sets easier to locate and manage
- Hyperlink to MAINVIEW for OS/390 to analyze volume usage information
- See the number of buffers defined and the amount of wait for buffers—across an entire sysplex

With the data set views, you can investigate the performance and status of key IMS data sets used for logging. Information is provided across multiple systems. Data set views also provide hyperlinks to the JUDEV view, where you can analyze volume usage information if you have the MAINVIEW for OS/390 product installed. (See “Hyperlinks in Data Set Views” on page 206.)

The following data set views are provided:

View name	Description
DSVSUMR	Data Set Summary (realtime)
DSVSUM	Data Set Summary (interval)
DSVDTLR	Data Set Detail (realtime)
DSVDTL	Data Set Detail (interval)

Accessing the Data Set Views

You can display any of the data set views described in this chapter by typing the view name on the command line, or by typing VIEWS, and then selecting the view from the list displayed.

You can also hyperlink to the data set views from the Resources section of the DBCTL Easy Menu (EZIMS).

Hyperlinks in Data Set Views

The data set views provide hyperlinks to the JUDEV view, shown in Figure 153. The JUDEV view is available in BMC Software MAINVIEW for OS/390 products. If you currently have MAINVIEW for OS/390 installed on your system, you can get important volume activity information from the JUDEV view.

For more information about the JUDEV view, refer to the *Getting Started with MAINVIEW for OS/390* manual and the *MAINVIEW for OS/390 User Guide and Reference*.

22MAR2002 10: 51: 50 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----											
COMMAND ==>						SCROLL ==> PAGE					
CURR WIN ==> 1			ALT WIN ==>								
W1 =JUDEV=====SYSD=====22MAR2002==15: 55: 52====MVMS====D===60											
C	Jobname	T	SrvClass	%Use	%Use	Dev	Volser	Type	Mnt	Resp	Act. %Req
-	-----	-	-----	ThisJob	All Jobs	Num	-----	----	Sta	Time	Rate Qued
	DCSHSMD	S	STCNRM	35.99	11.06	308	BAB316	3490	PRV	12.6	8.89 0.1
	BOLTWS4	T	TSOHRM	2.26	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	XTSTFPAS	S	STCPAS	0.97	11.06	308	BAB314	3390	PRV	12.6	8.89 0.1
	XCFAS	S	SYSTEM	0.65	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	XTSTFPAS	S	STCPAS	0.65	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	XTSTFPAS	S	STCPAS	0.65	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	AAOTSHD	S	STCNRM	0.65	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	BMVRTR4	T	TSOHRM	0.48	11.06	308	BAB320	3390	PRV	12.6	8.89 0.1
	MASTER	S	SYSTEM	0.48	11.06	308	BAB317	3380	PRV	12.6	8.89 0.1
	JES2	S	STCNRM	0.48	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	PTR3	T	TSOHRM	0.48	11.06	308	BAB315	3390	PRV	12.6	8.89 0.1
	BOLJSC4	T	TSOHRM	0.48	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	BBEJCH1	T	TSOHRM	0.48	11.06	308	BAB317	3390	PRV	12.6	8.89 0.1
	QA1CANDX	S	SYSTEM	0.48	11.06	308	BAB311	3390	PRV	12.6	8.89 0.1

Figure 153. MAINVIEW for OS/390 JUDEV View

The following hyperlinks are provided in the data set views.

View	Hyperlink from field	To see
DSVSUMR (Data Set Summary Realtime)	PRIME OLDS (volume serial number)	JUDEV view
	PRIME WADS (volume serial number)	
DSVSUM (Data Set Summary Interval)	PRIME OLDS (volume serial number)	JUDEV view
	PRIME WADS (volume serial number)	

View	Hyperlink from field	To see
DSVDTL (Data Set Detail Realtime)	PRIME OLDS (volume serial number) PRIME WADS (volume serial number)	JUDEV view
DSVDTLR (Data Set Detail Interval)	PRIME OLDS (volume serial number) PRIME WADS (volume serial number)	JUDEV view

When you hyperlink to the JUDEV view, you can see the resources that are in competition with your key IMS data sets for the same volumes. You see

- A list of jobs contending for devices during the same time interval
- The percentage of time each job used a particular device

Note: You cannot hyperlink to the JUDEV view from data set interval views when they are displaying historical data.

Data Set Summary Views

The data set summary views provide data across multiple systems. These tabular views allow you to examine IMS log data set information for all the IMS systems in your sysplex.

Data set summary views show IMS name, the amount of wait for buffers, primary and secondary OLDS and WADS volumes, volume status (in use or not in use), rate of block writes to each data set per second, and the data set name.

Data Set Summary Realtime View (DSVSUMR)

The Data Set Summary Realtime view (DSVSUMR), shown in Figure 154 and Figure 155, helps you to manage your IMS log data sets. You can view information across the entire sysplex at the moment of inquiry.

To display the Data Set Summary Realtime view, enter the view name (DSVSUMR) on any command line within IPSM.

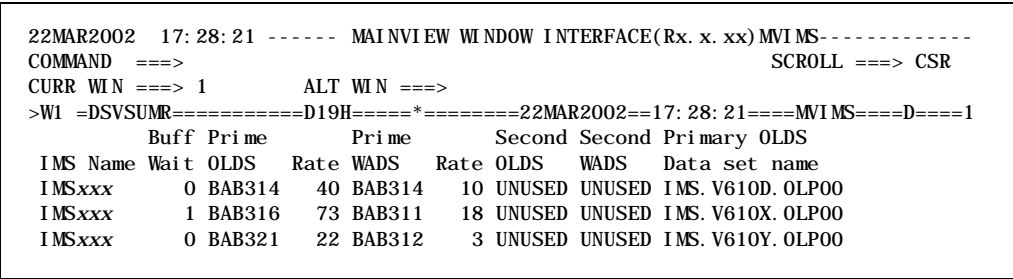


Figure 154. Data Set Summary Realtime View (DSVSUMR)

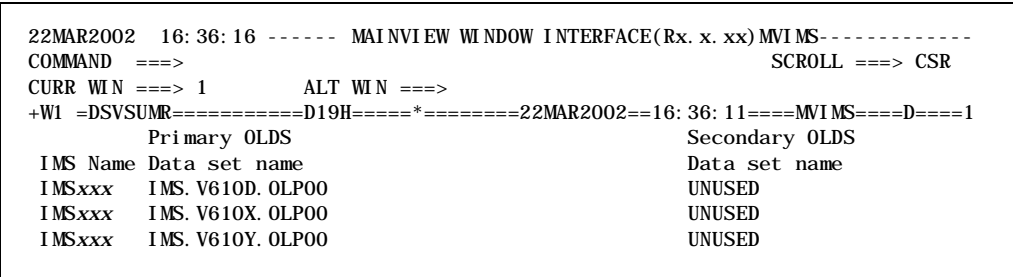


Figure 155. Data Set Summary Realtime View, Scrolled Right.

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Summary view. This takes you to the JUDEV view, where you can analyze volume usage information.

Data Set Summary Interval View (DSVSUM)

The Data Set Summary Interval view (DSVSUM), shown in Figure 156 and Figure 157, allows you to examine IMS log data set information across a sysplex. With this view, you can obtain interval information or history data. You can also specify the length of the reporting interval.

Note: To specify the length of the reporting interval, enter TIME on the command line. For a detailed description of how to use the TIME command, see the *Using MAINVIEW* manual.

To display the Data Set Summary Interval view, enter the view name (DSVSUM) on any command line within IPSM.

```
22MAR2002 17: 11: 52 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =DSVSUM=====D19H=====*=====22MAR2002==17: 11: 52====MVI MS====D====1
```

IMS Name	Wait	Buff	Prime	Rate	Prime	Rate	Second	Second	Primary	OLDS
IMSxxx	4	BAB314	72	BAB314	12	UNUSED	UNUSED	IMS. V610D. OLP00		
IMSxxx	3	BAB314	81	BAB315	17	UNUSED	UNUSED	IMS. V610D. OLP00		
IMSxxx	0	BAB314	49	BAB311	7	UNUSED	UNUSED	IMS. V610D. OLP00		

Figure 156. Data Set Summary Interval View (DSVSUM)

```
22MAR2002 16: 44: 16 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
+W1 =DSVSUM=====D19H=====*=====22MAR2002==16: 44: 12====MVI MS====D====1
```

IMS Name	Primary	OLDS	Secondary	OLDS
IMSxxx	IMS. V610D. OLP00		UNUSED	
IMSxxx	IMS. V610D. OLP00		UNUSED	
IMSxxx	IMS. V610D. OLP00		UNUSED	

Figure 157. Data Set Summary Interval View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Summary Interval view. This takes you to the JUDEV view, where you can analyze volume usage information.

Note: You cannot hyperlink to the JUDEV view from the Data Set Summary Interval view (DSVSUM) when it is displaying historical data.

Data Set Detail Views

The data set detail views provide detailed IMS log data set information for a single IMS. Although data set detail views show all the information provided by summary views, they do not require scrolling to see all the data.

Data set detail views show the IMS name, interval date and time, amount of wait for buffers, primary and secondary OLDS and WADS volumes, volume status (in use or not in use), and rate of block writes to each per second. Also provided is an OLDS buffers defined field, which shows the number of buffers statically defined for use in logging.

Data Set Detail Realtime View (DSVDTLR)

The Data Set Detail Realtime view (DSVDTLR), shown in Figure 158, allows you to see detailed statistics about the log data sets for a selected IMS at the moment of inquiry.

To display the Data Set Detail Realtime view, enter the view name (DSVDTLR) on any command line within IPSM.

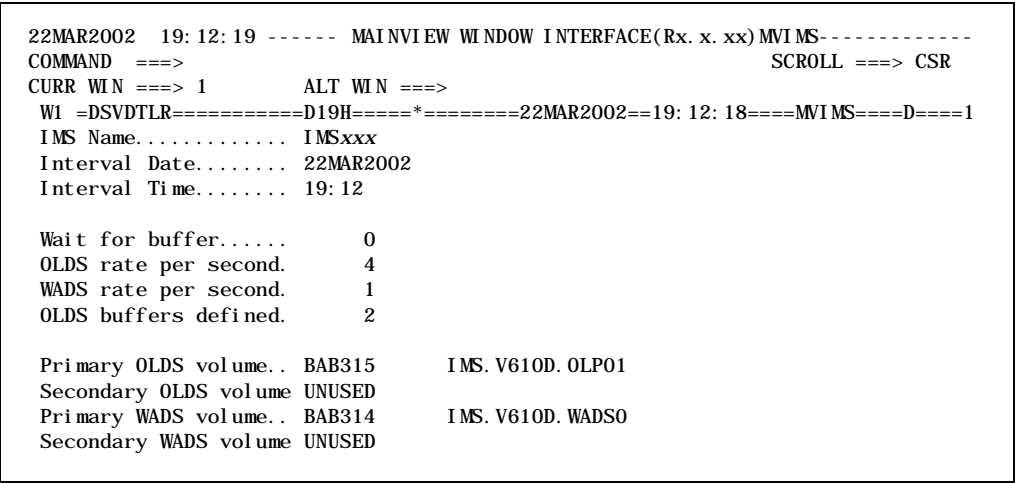


Figure 158. Data Set Detail Realtime View (DSVDTLR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Detail Realtime view. This takes you to the JUDEV view, where you can analyze volume usage information.

Data Set Detail Interval View (DSVDTL)

The Data Set Detail Interval view (DSVDTL), shown in Figure 159, allows you to see detailed statistics about the log data sets for a selected IMS. With this view, you can obtain interval information or history data. You can also specify the length of the reporting interval.

To display the Data Set Detail Interval view, enter the view name (DSVDTL) on any command line within IPSM.

```
22MAR2002 19:35:05 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =DSVDTL=====D19H=====*=====22MAR2002==19:35:04====MVI MS====D====1
IMS Name..... IMSxxx
Interval Date..... 22MAR2002
Interval Time..... 19:35

Wait for buffer..... 4
OLDS rate per second. 76
WADS rate per second. 17
OLDS buffers defined. 2

Primary OLDS volume.. BAB315      IMS. V610D. 0LP01
Secondary OLDS volume UNUSED
Primary WADS volume.. BAB314      IMS. V610D. WADS0
Secondary WADS volume UNUSED
```

Figure 159. Data Set Detail Interval View (DSVDTL)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Detail Realtime view to access the JUDEV view, where you can analyze volume usage information.

Note: You cannot hyperlink to the JUDEV view from the Data Set Detail Interval view (DSVDTL) when it is displaying historical data.

Chapter 17. Managing an IMSplex

An IMSplex is a group of IMS address spaces that can share databases, message queues, and other resources. An IMSplex runs in an OS/390 Sysplex environment and uses an IMS Common Service Layer (CSL).

This chapter describes the IMSplex management views, which you can use to

- analyze IMSplex group members and their status (IPXSUMR view)
- analyze IMSplex connection and utilization information for a specific IMS system (IMSSPLXR view)

The following IMSplex views are provided:

View name	Description
IPXSUMR	IMSplex Member Status view
IMSSPLXR	IMSplex Information view

Accessing the IMSplex Views

You can display the IMSplex views by entering the view name on the command line, or by entering VIEWS and then selecting from the list of views.

You can also hyperlink to the IMSplex views from the IMS Easy Menu (EZIMS), the IMS Sysplex Easy Menu (EZISSI), the IMS Fast Menu (EZIFAST), or the IMS Menu (IMSMPR).

IMSplex Member Status View

This section describes the IMSplex Member Status view (IPXSUMR), which is shown in Figures 160 and 161.

The IPXSUMR view is a realtime or past interval tabular view that shows the structure and status of IMSplex group members, including both IMS control region members and SCI component members.

The IPXSUMR view is summarized by IMSplex name. Each row includes the member name, status, type, subtype, job name, version, and operating system name. For IMS control regions, the view shows the MVDBC PAS ID, version number, and PUT level.

To display the IMSplex Member Status view, enter IPXSUMR on any command line in IPSM. You can hyperlink to IPXSUMR from the IMSplex option on the EZISSI and IMSMPR menus and from the IMSplex Name option on the IMS Activity views (DBCCTL*) and the IMS Sysplex Activity views (DBCPL*).

```
22MAR2002 12: 20: 36 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =IPXSUMR=====IMSxxx==*=====22MAR2002==12: 20: 36====MVIMS====D====2
IMSplex Member                               Job OS
Name Name Status Type Subtype Name Version Name
CSLPLX81 I8ASCQS ACTIVE CQS I8ACQS 1. 3. 0 SJSC
CSLPLX81 I8CSL OM ACTIVE, READY OM I8CSL OM 1. 1. 0 SJSC
CSLPLX81 I8CSLRM ACTIVE, READY RM MULTRM I8CSLRM 1. 1. 0 SJSC
CSLPLX81 I8CSLSCI ACTIVE, READY SCI I8CSLSCI 1. 1. 0 SJSC
CSLPLX81 I8A ACTIVE, READY IMS DBDC I8A331CT 8. 1. 0 SJSC
CSLPLX81 X81H ACTIVE, READY IMS DBDC IMS81X 8. 1. 0 SJSC
CSLPLX81 I8BSCQS ACTIVE CQS I8BCQS 1. 3. 0 SJSD
CSLPLX81 I8DSLSCI ACTIVE, READY SCI I8DSLSCI 1. 1. 0 SJSD
CSLPLX81 I8B ACTIVE, READY IMS DBDC I8B331CT 8. 1. 0 SJSD
```

Figure 160. IMSplex Member Status View (IPXSUMR)

```
22MAR2002 12: 20: 36 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
<W1 =IPXSUMR=====IMSxxx==*=====22MAR2002==12: 20: 36====MVIMS====D====2
IMSplex OS MVIMS MVIMS MVIMS
Name Name PAS Version PUT Level
CSLPLX81 SJSC ---- - - - - -
CSLPLX81 SJSC ---- - - - - -
CSLPLX81 SJSC ---- - - - - -
CSLPLX81 SJSC ---- - - - - -
CSLPLX81 SJSC ---- - - - - -
CSLPLX81 SJSC GG33 3. 3. 20 0202A
CSLPLX81 SJSD ---- - - - - -
CSLPLX81 SJSD ---- - - - - -
CSLPLX81 SJSD ---- - - - - -
```

Figure 161. IMSplex Member Status View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPXSUMR view.

Hyperlink from	To see
Member Name (of an IMS control region member)	IMSSPLXR view, which provides connectivity and utilization information about the selected IMS system

IMSplex Information View

This section describes the IMSplex Information view (IMSSPLXR), which is shown in Figure 162.

The IMSSPLXR view is a realtime or past interval detail view that shows information about the IMSplex connectivity and utilization of a specific IMS system.

The view includes information such as:

- whether the IMS has registered to the SCI, OM, and RM Common Service Layer components
- command security and LE options for the IMS
- online change options for the IMS

To display the IMSplex Information view, enter IMSSPLXR on any command line in IPSM. You can also hyperlink from the IMSplex Connection option on the EZIMS menu and on the EZIFAST System Menu.

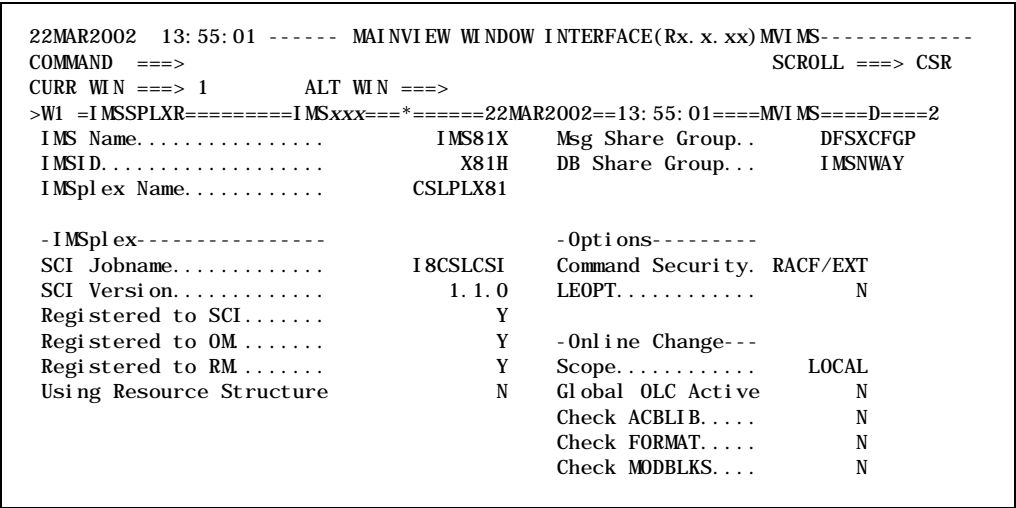


Figure 162. IMSplex Information View (IMSSPLXR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IMSSPLXR view.

Hyperlink from	To see
IMS Name	IMSMPR menu, where you can access additional information about the selected IMS system
IMSplex Name	IPXSUMR view, which shows IMSplex group members and their status

Part 5. Managing IPSM

This part describes system administration and operations views used to define an IMS workload and set and control the sampling of a target system.

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Chapter 18. Setting Target Samplers

A sampler makes periodic observations of the state of one or more target IMS systems. These observations are accumulated and displayed as performance information in the workflow and components of response time (CORT) views. The rate of sampling and the types of information collected can be controlled by using sampler definition parameters. Administrative views let you add or change sampler definitions for targets.

Sampler parameter definitions are shown by the ISAMP and ISAMPD system administration views.

ISAMP – Sampler Administration

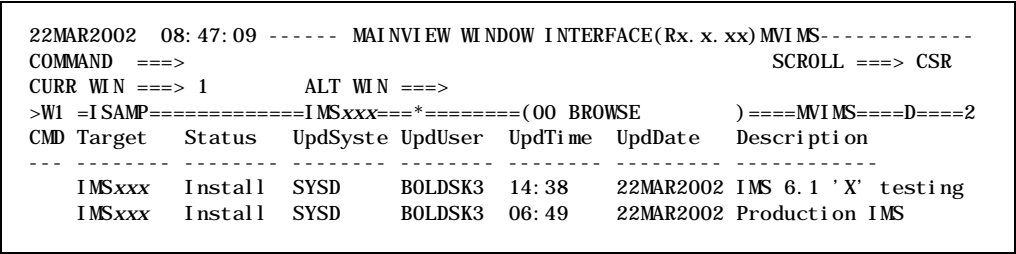


Figure 163. ISAMP View

You can select the ISAMP view at any time by typing one of the following view names on the command line:

- COMMAND ===> ISAMP
- COMMAND ===> ADMIN

ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts. Select ISAMP from the list of ADMIN views.

- COMMAND ===> VIEWS

Select ISAMP from the list of views.

To add a new target sampler definition or change an existing one, you must first type the following on the command line:

COMMAND ===> EDIT

The window information line changes from **BROWSE** to **EDIT**. In edit mode, you can use

- Primary commands to
 - **ADD** a new definition
 - **CANCEL** any changes made
This discards any changes made to the definition since the last save.
 - **SAVE** a definition you have added or changed
 - **END** your edit session
This saves any changes you made and redisplay the previous view.
- Line commands to select an existing definition to
 - **ADD** a definition using one you selected as a model
 - **CHAnge** the selected definition
 - **DELete** the selected definition
 - **UNDelete** or recover the selected definition if it is not saved
 - **INStall** or activate the selected definition

Online help describes how to use these commands. Select the view name, press your help key, and then select Actions from the help window.

ISAMPD – Sampler Administration Detail

22MAR2002 09: 24: 50 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----							
COMMAND ==>				SCROLL ==> CSR			
CURR WIN ==> 1		ALT WIN ==>					
W1 =I SAMPD=====IMSxxx==*=====		(00 BROWSE		)====MVI MS====D====1			
Target.....	IMSxxx	Time1	Time2	Time3	Time4	Time5	
Status.....	Install	Start Time.....	09: 21	09: 22	09: 24	09: 25	09: 29
Update Info		End Time.....	09: 22	09: 23	09: 25	09: 29	24: 00
System....	SYSD	---Samplers---					
User.....	BOLDSK3	Workflow data..	N	Y	Y	Y	Y
Time.....	09: 13	CORT data.....	Y	Y	Y	Y	Y
Date.....	22MAR2002	Sample Rate...	1	2	3	4	5
Deleted....	N	Extended I/O..	N	Y	Y	Y	Y
		Extended Latch	N	N	Y	Y	Y
		Extended Lock.	N	N	N	Y	Y
		Workload.....	N	N	N	Y	N

Figure 164. ISAMPD View

ISAMPD shows detailed information about the status and parameters in effect for a target selected from the ISAMP view. It shows the current values of the parameters. The values shown may not be in effect if the parameters have changed and

- Changes were activated with the INStall command, but not SAVED

The status of the sampler definition is Install. The installed parameters are in effect.

- Changed sampler parameters were SAVED, but not INStalled

The status of the sampler definition is Modified. The saved parameters are the current values. Saved changes are activated when they are installed or the PAS (product address space) is restarted.

You can use the ADD primary command from this view to add parameters for another target using this definition as a model. To add a new target sampler definition, you must first enter the following on the command line:

```
COMMAND ==> EDIT
```

The window information line changes from BROWSE to EDIT.

Online help describes how to use these commands. Select the view name, press your help key, and then select Actions from the help window.

Controlling Sampler Defaults

If you do not define a sampling for a target, default sampler parameters are used. These parameters specify a sampling period of 24 hours a day at 2 times a second to collect all information for workflow and CORT views. You can change this by adding a sampler definition named DEFAULT. When this definition exists, the parameters specified for it are used instead of the distributed sampler defaults.

To create the sampler DEFAULT target definition, you ADD the definition from the ISAMP or ISAMPD view as follows:

1. COMMAND ===> ISAMP
2. ADD a definition for a target and name it DEFAULT

You can use either the primary command as shown below or the ADD line command if you want to use previously defined target sampler parameters as a model. Enter the following:

- a. COMMAND ===> EDIT

You must be in an EDIT session before you can use either a primary or line command.

- b. COMMAND ===> ADD

The ADD command displays the following ISAMP dialog box.

```
22MAR2002 09:24:50 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVIMS-----
COMMAND ===>                                SCROLL ===> CSR
CURR WIN ===> 1          ALT WIN ===>
>W1 =ISAMP=====IMSxxx==*===== (00 EDIT          )=====MVIMS=====D=====4

----- ADD PLEXUS SAMPLER DEFINITION -----
| COMMAND ===>
| Target      ===> DEFAULT
| Description ===> SITE SAMPLER DEFAULTS
|
|   Start End   WFlow CORT Samp ---Extended---
|   Time  Time  Data  Data Rate I/O  Latch Lock  Wkld
| 1 00:00 24:00 YES   YES  2   YES   YES   YES   YES
| 2
| 3
| 4
| 5
|   hh:mm hh:mm - YES/NO-- 1-5 -----YES/NO-----
|
| Press End to add the definition. Enter CANCEL to leave without adding.
|-----
```

Figure 165. ISAMP View Dialog Box

Specify a target name of DEFAULT as shown above and change the parameters to those that you want to use as the defaults for all targets. That allows you to change the sampler defaults for all your targets at once and create unique sampler definitions for specific targets. To do this, the BBPARM data set must be shared by all PASs.

Chapter 19. Controlling Samplers

The state of target IMSs is sampled periodically 24 hours a day, 2 times a second by default or as defined by a sets (or sets) of user-specified sampler parameters, as described in Chapter 18, “Setting Target Samplers” on page 221. The samplings are accumulated and used by the workflow and components of response time (CORT) views.

Using operations views, you can

- See if a target is being sampled
- Control the current state of a sampling with stop, start, or quiesce commands

These views are ISAMPOP and ISAMPOPD.

ISAMPOP – Sampler Operations Administration

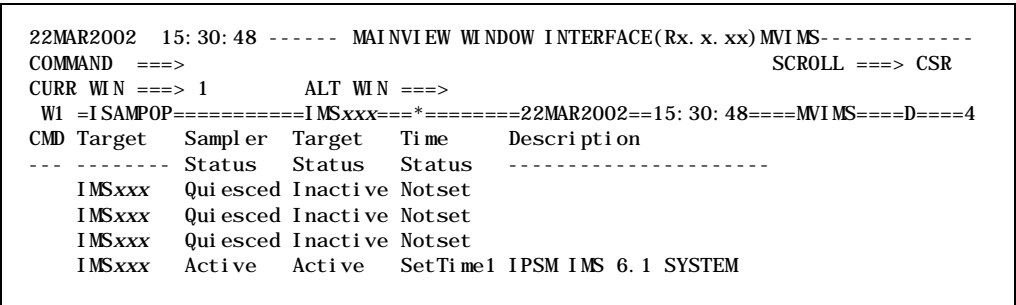


Figure 166. ISAMPOP View

You can select the ISAMPOP view at any time by typing one of the following commands on the command line:

- COMMAND ==> ISAMPOP
- COMMAND ==> ADMIN

ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts. Select ISAMPOP from the list of ADMIN views.

- COMMAND ==> VIEWS

Select ISAMPOP from the list of views.

From this view, you can use the following line commands to control target sampling:

- STArT Start sampling the selected IMS target
- STOp Stop sampling the selected IMS target
- Quiesce Put the target sampling in a latent state

Online help describes how to use these commands. Select the view name, press your help key, and then select Actions from the help window.

ISAMPOPD – Sampler Operations Administration Detail

22MAR2002 09: 29: 25 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1		ALT WIN ==>							
W1 =ISAMPOPD=====IMSxxx==*=====22MAR2002==09: 29: 25====MVIMS====D====1									
Target.....	IMSxxx		Time1	Time2	Time3	Time4	Time5		
Smp Status.	Quiesced	Start Time.....	00:00	08:00	17:30				
Tgt Status.	Inactive	End Time.....	08:00	17:30	24:00				
Time Status	Notset	---Samplers---							
		Workflow data..	Y	Y	Y				
		CORT data.....	Y	Y	Y				
		Sample Rate... 2	2	2					
		Extended I/O..	N	Y	Y				
		Extended Latch	N	N	Y				
		Extended Lock.	N	N	Y				
		Workload.....	Y	Y	Y				

Figure 167. ISAMPOPD View

ISAMPOPD shows detailed information about the status and parameters in effect for a target selected from the ISAMPOP view. It can help you determine when data will be collected for that target.

Chapter 20. Viewing a List of BMC Software IMS Products

This chapter explains how to use the IMS product views to display a list of BMC Software performance products that are active in each IMS control region associated with an MVIMS PAS.

The IMS product views

- Provide a list of BMC Software IMS-related products that are active in the same IMS control region as the MVIMS target
- Include online help that describes the products and what each can provide.
- Provide the product release and maintenance level
- Indicate product status

The following IMS product views are provided:

View name	Description
IPRDSUM	BMC Software Products Summary
IPRDDTL	BMC Software Products Detail

Accessing the Product Views

You can access the IMS product views by selecting the Installed Products option on the

- IMS Easy Menus (EZIMS and EZIMSR)
- IMS Fast Menus (EZIFAST and EZIFASTR)
- IMS SSI Menus (EZISSI and EZISSIR)

If you select the Installed Products option on EZIMS, EZIMSR, EZIFAST, or EZIFASTR, you access the IPRDDTL view. If you select the option on EZISSI or EZISSIR, you access the IPRDSUM view.

You can also display the IMS product views by

- Entering the view name on a command line
- Entering VIEWS on the command line and selecting the view from the list of views
- Entering MAIN on the command line, selecting IMSPRODS, and selecting either of the two product views from the IMSPRODS view list

BMC Software Products Summary View

The BMC Software Products Summary view (IPRDSUM) displays a summary of the BMC Software IMS products that are installed in the IMS control regions in the context set by the user. You can hyperlink from the IPRDSUM Count field to access a view that shows every installation for a specific product.

The view displays one row for each installed product, and the Count field shows how many IMS systems have the associated product installed. For each type of product, IPRDSUM shows

- Status of the product
- The product’s version, release, and maintenance level
- The product’s IMS and OS/390 systems

22MAR2002 14: 09: 18 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVI MS-----										
COMMAND ==>							SCROLL ==> PAGE			
CURR WIN ==> 1							ALT WIN ==>			
>W1 =IFPSUMR=====IMSxxx==*=====22MAR2002==14: 05: 42====MVI MS====D====2										
CM Area				Auth	Access	EQE	DBD	IMS	MVS	IMS
--	Name	Status 1	Status 2	State	Level	Cnt	Name	ID	ID	Name
	CUSA01A	NOT-OPEN		NOT- AUTH	EXCL		BBFDDDB11	X17H	SJSC	IMSxxx
	CUSA010	NOT-OPEN		NOT- AUTH	EXCL		BBFDDDB01	X17H	SJSC	IMSxxx

Figure 168. BMC Software Products Summary View (IPRDSUM)

The help for the Product Name field provides brief product descriptions. For information about the fields on the view, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPRDSUM view.

Hyperlink from...	To see...
Count	IPRDDTL view, which shows information about each IMS product installation

BMC Software Products Detail View

The BMC Software Products Detail view (IPRDDTL) displays a list of the BMC Software IMS products that are installed in the IMS control regions in the context set by the user.

The view displays one row for each IMS a product is installed on, and for each product installation it shows

- Status of the product
- The product’s version, release, and maintenance level
- The product’s IMS and OS/390 systems

If you access this view by hyperlinking from IPRDSUM, the view displays only information about the product you selected on IPRDSUM. If you access the view by its name, it displays information about all installations of BMC Software IMS products.

22MAR2002 12: 11: 22 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx)MVI MS-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
W1 =IPRDDTL=====IMSxxx==*=====22MAR2002==06: 42: 36====MVI MS====D====4
Product Product Product IMS MVS
Name Status Level Name Name
AutoOPERATOR for IMS ACTIVE V6. 1. 00 IMSxxx SJSD
MAINVIEW for IMS ACTIVE V3. 3. 00 IMSxxx SJSD
Q: MANAGER IMS ACTIVE V2. 3. 02 IMSxxx SJSD
Q: MANAGER IMS EP ACTIVE V2. 3. 02 IMSxxx SJSD

Figure 169. BMC Software Products Detail View (IPRDDTL)

The help for the Product Name field provides brief product descriptions. For information about the fields on the view, position the cursor on any field and press your help key.

Chapter 21. Securing IPSM Resources

External security managers (ESM), such as CA-ACF2, CA-TOP SECRET, or RACF can be used to protect access to a component and its resources, such as views, view actions or commands, and data. Component resources are identified to your ESM as a resource entity that can be protected so that existing security rules, permits, or profiles can be used.

Using the security resource administration views, you can see the access authorizations that are enabled for the IPSM resources by default. These views are SERDEF and SERDEFE. You can use them to enable, disable, and change security resource definitions. For information about securing resources, see *Implementing Security for MAINVIEW Products*.

SERDEF – Security Resource Definitions

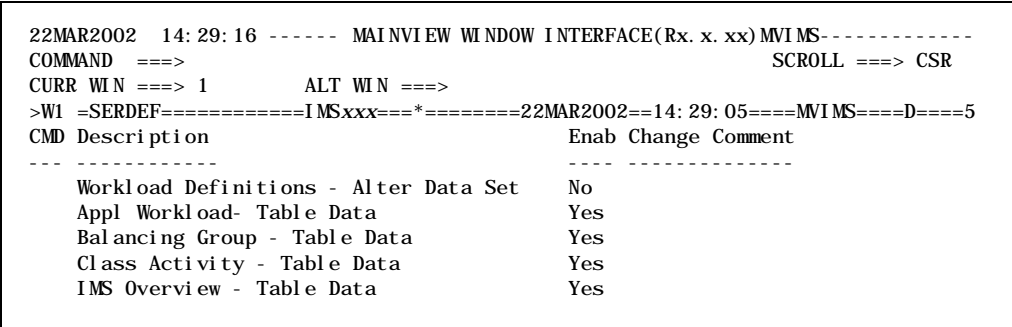


Figure 170. SERDEF View

You can select the SERDEF view at any time by typing one of the following commands on the command line:

- COMMAND ===> SERDEF
- COMMAND ===> VIEWS

Select SERDEF from the list of views displayed.

- COMMAND ===> ADMIN

Select SERDEF from the list of views displayed in ADMIN. (ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts.)

You can use the SERDEF view to disable or enable resource definitions, or to select a single resource definition to view and change its attributes.

To see online help for the SERDEF view or any of its fields, position the cursor on the view name on the window information line, or on any field in the view, and then press your help key. See the *Implementing Security for MAINVIEW Products* manual for a detailed description of how to use this view.

SERDEFE – Security Resource Definition Detail

```
22MAR2002 14:30:29 ----- MAINVIEW WINDOW INTERFACE(Rx. x. xx) MVIMS-----
COMMAND ==> SCROLL ==> CSR
CURR WIN ==> 1 ALT WIN ==>
>W1 =SERDEFE=====IMSxxx=====22MAR2002==14:29:05====MVIMS====D====1
Res Key.... BBF9PA40PURG Desc..... Transaction - Action - Purge
Enabled... Yes Comment... *Unchanged*
Type..... ACTION

ESM Info---
Class.... SBBM Entity... BBM. &PRODUCT. &CONTEXT. &INTTABLE. &INTACTI
Vol Ser... *NONE* Intent... READ
LogAuth... Allow LogFail... Allow
Substitution Values
IntTable.. FPA40 ExtTable.. Tran
IntAction. PURGE ExtAction. PURGE
IntActTab. BBFPA40 Product.. MVIMS
Parms?... No Fields?... Yes
Update Info Mem Suff. 00
UpdSystem. *NONE* UpdTime.. 14:29:08
UpdUser... *NONE* UpdDate.. &windate.
Res Version
Version... 1 Release.. 1
ModLevel.. 0
```

Figure 171. SERDEFE View

The SERDEFE shows detailed information about a resource definition selected from the SERDEF view. It shows the class and entity names and other attributes for that definition. To change a definition’s attributes, you can use the commands described in online action help or in the *Implementing Security for MAINVIEW Products* manual.

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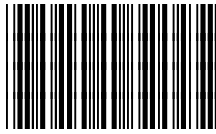
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